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**RICOH IM C6010/C5510/C5510A/C4510/C4510A with FAX Unit Type M53 and  
HDD Option Type M52,  
RICOH IM C6010F/C5510F/C4510F with HDD Option Type M52  
Security Target**

Author: RICOH COMPANY, LTD.

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Version: 1.00

Portions of RICOH IM C6010/C5510/C5510A/C4510/C4510A with FAX Unit Type M53 and HDD Option Type M52,  
RICOH IM C6010F/C5510F/C4510F with HDD Option Type M52  
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# 1 ST Introduction

This section describes ST Reference, TOE Reference, TOE Overview and TOE Description.

## 1.1 ST Reference

The following are the identification information of this ST.

Title:

**RICOH IM C6010/C5510/C5510A/C4510/C4510A with FAX Unit Type M53 and HDD Option Type M52,  
RICOH IM C6010F/C5510F/C4510F with HDD Option Type M52 Security Target**

Version: 1.00

Date: 2023-10-24

Author: RICOH COMPANY, LTD.

## 1.2 TOE Reference

The identification information of the TOE, whose TOE type is digital multifunction product (hereinafter "MFP"), is shown below.

TOE Names:

**RICOH IM C6010/C5510/C5510A/C4510/C4510A with FAX Unit Type M53 and HDD Option Type M52,  
RICOH IM C6010F/C5510F/C4510F with HDD Option Type M52**

Version: J-1.01

This TOE consists of a combination of the target MFP on which software and hardware are installed and optional products installed to configure the TOE.

The target MFPs shown in Table 1 are the products for Japanese domestic market, and are identified by the product name and model code.

**Table 1 : Product Name and Model Code of the Target MFP**

| No. | Product Name    | Model Code |
|-----|-----------------|------------|
| 1   | RICOH IM C6010  | D0E4-00    |
| 2   | RICOH IM C6010  | D0E4-05    |
| 3   | RICOH IM C6010F | D0E4-01    |
| 4   | RICOH IM C6010F | D0E4-06    |
| 5   | RICOH IM C5510  | D0E3-00    |
| 6   | RICOH IM C5510  | D0E3-05    |

| No. | Product Name    | Model Code |
|-----|-----------------|------------|
| 7   | RICOH IM C5510A | D0E3-04    |
| 8   | RICOH IM C5510A | D0E3-07    |
| 9   | RICOH IM C5510F | D0E3-01    |
| 10  | RICOH IM C5510F | D0E3-06    |
| 11  | RICOH IM C4510  | D0E2-00    |
| 12  | RICOH IM C4510  | D0E2-05    |
| 13  | RICOH IM C4510A | D0E2-04    |
| 14  | RICOH IM C4510A | D0E2-07    |
| 15  | RICOH IM C4510F | D0E2-01    |
| 16  | RICOH IM C4510F | D0E2-06    |

The target optional products are shown in **Table 2**, and are identified by the product name.

**Table 2 : Product Names of the Optional Products**

| No. | Optional Product    | Product Name        |
|-----|---------------------|---------------------|
| 1   | Fax Controller Unit | Fax Unit Type M53   |
| 2   | HDD                 | HDD Option Type M52 |

Table 3 shows the combinations of the target MFP and the optional product that will be the TOE.

The optional HDD must be installed on the target MFP. For the target MFP without standard Fax Function, the optional Fax Controller Unit must be installed. The target MFPs with standard Fax Function are indicated to that effect in the remarks.

The type of ADF installed as standard is also shown in the remarks.

**Table 3 : Combinations of Target MFP and Optional Products**

| No. | MFP            |            | Optional Product                         | Remarks                       |
|-----|----------------|------------|------------------------------------------|-------------------------------|
|     | Product Name   | Model Code | Product Name                             |                               |
| 1   | RICOH IM C6010 | D0E4-00    | Fax Unit Type M53<br>HDD Option Type M52 | SPDF is installed as standard |
| 2   | RICOH IM C6010 | D0E4-05    | Fax Unit Type M53<br>HDD Option Type M52 | SPDF is installed as standard |



| No. | MFP                |            | Optional Product                         | Remarks                                                             |
|-----|--------------------|------------|------------------------------------------|---------------------------------------------------------------------|
|     | Product Name       | Model Code | Product Name                             |                                                                     |
| 3   | RICOH IM<br>C6010F | D0E4-01    | HDD Option Type M52                      | SPDF is installed as<br>standard<br>FAX is installed as<br>standard |
| 4   | RICOH IM<br>C6010F | D0E4-06    | HDD Option Type M52                      | SPDF is installed as<br>standard<br>FAX is installed as<br>standard |
| 5   | RICOH IM<br>C5510  | D0E3-00    | Fax Unit Type M53<br>HDD Option Type M52 | No standard ADF                                                     |
| 6   | RICOH IM<br>C5510  | D0E3-05    | Fax Unit Type M53<br>HDD Option Type M52 | No standard ADF                                                     |
| 7   | RICOH IM<br>C5510A | D0E3-04    | Fax Unit Type M53<br>HDD Option Type M52 | SPDF is installed as<br>standard                                    |
| 8   | RICOH IM<br>C5510A | D0E3-07    | Fax Unit Type M53<br>HDD Option Type M52 | SPDF is installed as<br>standard                                    |
| 9   | RICOH IM<br>C5510F | D0E3-01    | HDD Option Type M52                      | ARDF is installed as<br>standard<br>FAX is installed as<br>standard |
| 10  | RICOH IM<br>C5510F | D0E3-06    | HDD Option Type M52                      | ARDF is installed as<br>standard<br>FAX is installed as<br>standard |
| 11  | RICOH IM<br>C4510  | D0E2-00    | Fax Unit Type M53<br>HDD Option Type M52 | No standard ADF                                                     |
| 12  | RICOH IM<br>C4510  | D0E2-05    | Fax Unit Type M53<br>HDD Option Type M52 | No standard ADF                                                     |
| 13  | RICOH IM<br>C4510A | D0E2-04    | Fax Unit Type M53<br>HDD Option Type M52 | SPDF is installed as<br>standard                                    |
| 14  | RICOH IM<br>C4510A | D0E2-07    | Fax Unit Type M53<br>HDD Option Type M52 | SPDF is installed as<br>standard                                    |
| 15  | RICOH IM<br>C4510F | D0E2-01    | HDD Option Type M52                      | ARDF is installed as<br>standard                                    |

| No. | MFP             |            | Optional Product    | Remarks                                                       |
|-----|-----------------|------------|---------------------|---------------------------------------------------------------|
|     | Product Name    | Model Code | Product Name        |                                                               |
|     |                 |            |                     | FAX is installed as standard                                  |
| 16  | RICOH IM C4510F | D0E2-06    | HDD Option Type M52 | ARDF is installed as standard<br>FAX is installed as standard |

Table 4 shows the identification information of the software and hardware versions and part numbers installed in these MFPs. Software is identified by name, version, and part number. However, Keymicon is identified by name and version. Hardware is identified by name and version.

**Table 4 : Version and Part Number of Software and Hardware for Version J-1.01**

| No. | Name of Software for the MFP | Version  | Part Number |
|-----|------------------------------|----------|-------------|
| 1   | animation                    | 1.00     | D0E25576C   |
| 2   | CLOVE                        | 1.0.0    | D0E05594A   |
| 3   | Data Erase Onb               | 1.01     | D0E05589C   |
| 4   | Fax                          | 01.02.00 | D0E05560E   |
| 5   | GraphicData                  | 1.01     | D0E25591C   |
| 6   | HelpData                     | 1.00     | D0E25592C   |
| 7   | IRIPS Font                   | 1.31     | D0E25590A   |
| 8   | IRIPS PS dongle              | 1.00     | D0E25585A   |
| 9   | IRIPS PS3PDF                 | 1.00     | D0E25587C   |
| 10  | MovieData                    | 1.00     | D0E25561B   |
| 11  | MovieData2                   | 1.00     | D0E25563B   |
| 12  | MovieData3                   | 1.00     | D0E25565B   |
| 13  | Network Support              | 22.50    | D0E05578F   |
| 14  | NetworkDocBox                | 1.03     | D0E05574E   |
| 15  | Option MSIS                  | 0.61     | D0E25589C   |
| 16  | OSS Info                     | 2.00     | D0E25569C   |
| 17  | Printer                      | 1.01     | D0E25580E   |

| No. | Name of Software for the MFP | Version       | Part Number    |
|-----|------------------------------|---------------|----------------|
| 18  | PSFont JIS2004               | 1.01          | D0E25562A      |
| 19  | RemoteFax                    | 01.02.00      | D0E05562E      |
| 20  | RPCS                         | 3.27.8        | D0E25582C      |
| 21  | RPCS Font                    | 1.04          | D0E25593B      |
| 22  | Scanner                      | 01.04.1       | D0E05568E      |
| 23  | System/Copy                  | 1.04          | D0E25550G      |
| 24  | Web Support                  | 1.07          | D0E25570F      |
| 25  | Web Uapl                     | 1.01          | D0E25572D      |
| 26  | GWFCU6-1(WW) (*1)            | 02.00.00 (*1) | D0E05564F (*1) |
| 27  | PowerSaving Sys              | 00.37.00      | D0E05590D      |
| 28  | CheetahSystem                | 1.03          | D0E01420E      |
| 29  | appsite                      | 3.06.17       | D0E01449D      |
| 30  | bleservice                   | 1.00          | D0E01441A      |
| 31  | camelsl                      | 1.00          | D0E01460C      |
| 32  | cispluginble                 | 4.0.5         | D0E01454A      |
| 33  | cispluginkeyst               | 1.00.00       | D0E01453A      |
| 34  | cispluginnfc                 | 1.00.00       | D0E01452A      |
| 35  | devicemanagemen              | 1.00.00       | D0E01464B      |
| 36  | ecoinfo                      | 1.00          | D0E01440A      |
| 37  | faxinfo                      | 1.00          | D0E01438A      |
| 38  | helpservice                  | 1.00          | D0E01457B      |
| 39  | iccd                         | 3.11.00       | D0E01451A      |
| 40  | introductionset              | 1.00          | D0E01456B      |
| 41  | iwnnimelanguage              | 2.16.2        | D0E01433       |
| 42  | iwnnimelanguage              | 2.16.2        | D0E01431       |
| 43  | iwnnimelanguage              | 2.16.2        | D0E01432       |
| 44  | iwnnimeml                    | 2.16.204      | D0E01430C      |
| 45  | kerberos                     | 1.0           | D0E01459A      |
| 46  | langswitcher                 | 1.00          | D0E01436B      |

| No. | Name of Software for the MFP | Version                          | Part Number                     |
|-----|------------------------------|----------------------------------|---------------------------------|
| 47  | mediaappappui                | 1.02                             | D0E01447C                       |
| 48  | mlpsmartdevicec              | 4.1.9                            | D0E01435A                       |
| 49  | optimorurcmf                 | 1.1.9                            | D0E01462C                       |
| 50  | programinfoserv              | 1.00                             | D0E01442A                       |
| 51  | remotesupport                | 1.00                             | D0E01461B                       |
| 52  | rsisetup                     | 1.01.11                          | D0E01465D                       |
| 53  | simpleauth                   | 4.00.04                          | D0E01434A                       |
| 54  | simpledirectcon              | 1.27                             | D0E01455A                       |
| 55  | simpleprinter                | 1.02                             | D0E01443C                       |
| 56  | smartcopy                    | 1.00.2                           | D0E01444D                       |
| 57  | smartdocumentbo              | 1.00.5                           | D0E01463D                       |
| 58  | smartfax                     | 1.03                             | D0E01446C                       |
| 59  | smartprtstoredj              | 1.00                             | D0E01448B                       |
| 60  | smartscanner                 | 1.02                             | D0E01445C                       |
| 61  | smartscannex                 | 3.00                             | D0E01458B                       |
| 62  | stopwidget                   | 1.00                             | D0E01439A                       |
| 63  | tonerstate                   | 1.00                             | D0E01437B                       |
| 64  | traywidget                   | 1.00                             | D0E01450B                       |
| 65  | Engine                       | 1.00:01                          | D0E35503C                       |
| 66  | ADF (*2)                     | 01.010:02 (*3)<br>01.140:02 (*4) | D3KK5260 (*3)<br>D3K35260C (*4) |

(\*1): Software for the Fax Controller Unit

(\*2): This is not displayed for the MFP without any ADF.

(\*3): For the MFP equipped with the ARDF

(\*4): For the MFP equipped with the SPDF

| No. | Name of Hardware for the MFP | Version | Part Number |
|-----|------------------------------|---------|-------------|
| 67  | Ic Key                       | 1.258   | No display  |
| 68  | Ic Ctlr                      | 03      | No display  |

| No. | Name of Software for the Operation Panel | Version  | Part Number |
|-----|------------------------------------------|----------|-------------|
| 69  | Firmware                                 | 1.03     | D0E01420E   |
| 70  | Keymicon                                 | 1.08     | No display  |
| 71  | Bluetooth サービス                           | 1.00     | D0E01441A   |
| 72  | Bluetooth 認証プラグイン                        | 4.0.5    | D0E01454A   |
| 73  | DeviceManagementService                  | 1.00.00  | D0E01464B   |
| 74  | GraphicData                              | 1.01     | D0E25591C   |
| 75  | ICCardDispatcher                         | 3.11.00  | D0E01451A   |
| 76  | iWnn IME                                 | 2.16.204 | D0E01430C   |
| 77  | iWnn IME Korean Pack                     | 2.16.2   | D0E01433    |
| 78  | iWnn IME Simplified Chinese Pack         | 2.16.2   | D0E01431    |
| 79  | iWnn IME Traditional Chinese Pack        | 2.16.2   | D0E01432    |
| 80  | KerberosService                          | 1.0      | D0E01459A   |
| 81  | LegacyUIData                             | 1.00     | D0E25576C   |
| 82  | ProgramInfoService                       | 1.00     | D0E01442A   |
| 83  | RemoteSupportService                     | 1.00     | D0E01461B   |
| 84  | RicohScanGUIService                      | 3.00     | D0E01458B   |
| 85  | USB カードリーダー対応プラグイン                       | 1.00.00  | D0E01453A   |
| 86  | かんたんカード認証設定                              | 4.00.04  | D0E01434A   |
| 87  | かんたん文書印刷                                 | 1.00     | D0E01448B   |
| 88  | アプリケーションサイト                              | 3.06.17  | D0E01449D   |
| 89  | カンタン入出力                                  | 4.1.9    | D0E01435A   |
| 90  | クラウド設定                                   | 1.01.11  | D0E01465D   |
| 91  | コピー                                      | 1.00.2   | D0E01444D   |
| 92  | サポート設定                                   | 1.00     | D0E01457B   |
| 93  | スキャナー                                    | 1.02     | D0E01445C   |
| 94  | ストップウィジェット                               | 1.00     | D0E01439A   |
| 95  | ダイレクト接続                                  | 1.27     | D0E01455A   |
| 96  | トレイ設定/用紙残量                               | 1.00     | D0E01450B   |

| No. | Name of Software for the Operation Panel | Version | Part Number |
|-----|------------------------------------------|---------|-------------|
| 97  | ドキュメントボックス                               | 1.00.5  | D0E01463D   |
| 98  | ファクス                                     | 1.03    | D0E01446C   |
| 99  | プリンター情報確認                                | 1.02    | D0E01443C   |
| 100 | メディアプリント&スキャン                            | 1.02    | D0E01447C   |
| 101 | リモートコネクトサポート                             | 1.1.9   | D0E01462C   |
| 102 | 導入設定                                     | 1.00    | D0E01456B   |
| 103 | 操作部画面の遠隔操作                               | 1.00    | D0E01460C   |
| 104 | 標準 IC カードプラグイン                           | 1.00.00 | D0E01452A   |
| 105 | 言語切り替えウィジェット                             | 1.00    | D0E01436B   |
| 106 | ecoウィジェット                                | 1.00    | D0E01440A   |
| 107 | サブライ残量表示ウィジェット                           | 1.00    | D0E01437B   |
| 108 | ファクス受信文書ウィジェット                           | 1.00    | D0E01438A   |

Make clear to the sales representative that you purchase the MFP as CC-certified product.

### 1.3 TOE Overview

This section defines TOE Type, and TOE Usage and Major Security Functions of the TOE.

#### 1.3.1 TOE Type

This TOE is an MFP, which is an IT product that has Copy Function, Document Server Function, Printer Function, Scanner Function, and Fax Function.

#### 1.3.2 TOE Usage and Major Security Functions of TOE

The TOE is an MFP which is assumed that it will be installed in an office and used in an environment where it is connected with a telephone line and the LAN as shown in Figure 1. The user uses each function (Copy Function, Document Server Function, Printer Function, Scanner Function, and Fax Function) by operating from the Operation Panel of the MFP or from the client computer connected by the LAN.

Security Functions, such as Identification and Authentication, Access Control, Use-of-Feature Restriction, Residual Data Overwrite, and encrypted communication functions, are provided to prevent disclosure or alteration of assets, including document data handled by the TOE and setting information related to Security Functions, through unauthorised access to the TOE or communication data on the network. The TOE also provides a function to prevent unauthorised intrusion from telephone lines to the LAN. Events occurred on the TOE can be confirmed by the MFP administrator as audit log, and the MFP administrator can use the

management functions from the Operation Panel or the client computer. In addition, the TOE verifies the integrity of the software configuration. The Stored Data Protection Function that encrypts the data written to the HDD is not included in the Security Functions to be evaluated.

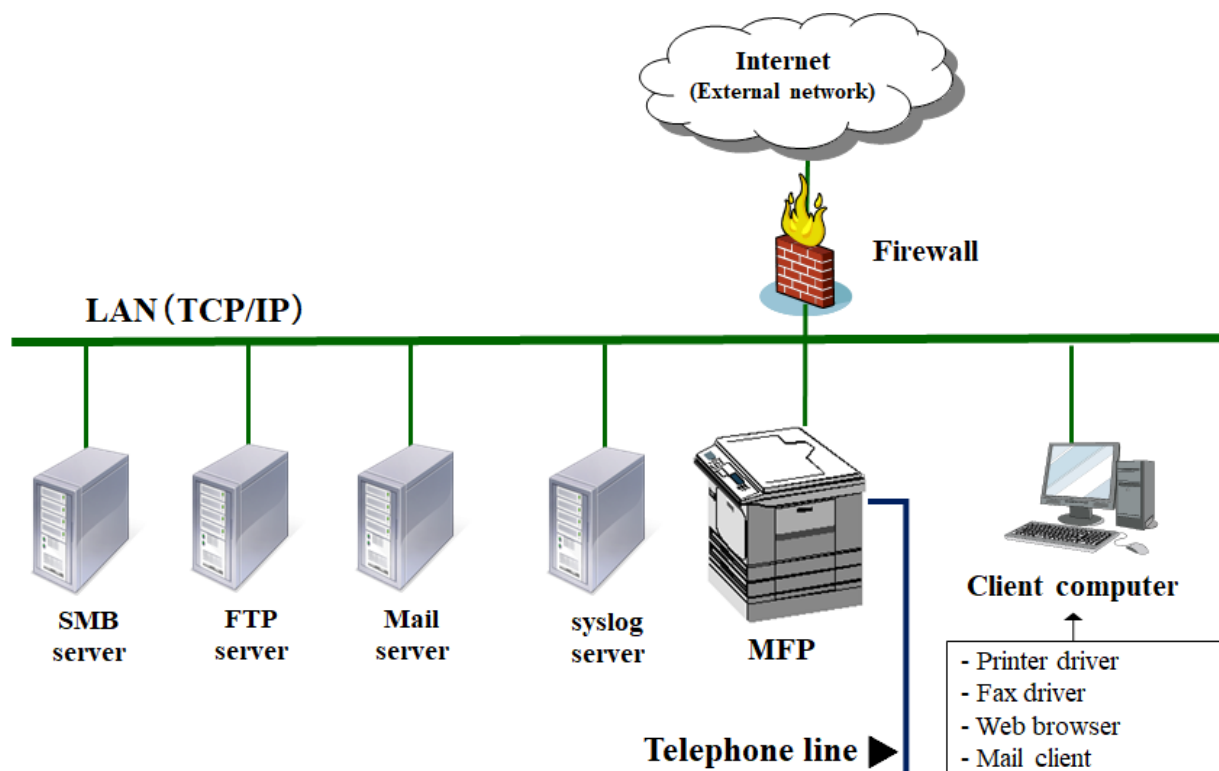


Figure 1 : Example of TOE Environment

### 1.3.3 Hardware and Software Other than TOE That Is Necessary for the TOE

The following describes components other than TOE in the operational environment illustrated in Figure 1.

- Client computer
  - By connecting to the LAN, a computer performs as a client of the TOE and users can remotely operate the MFP from the client computer. It is necessary to use a Web browser to operate various MFP settings and user data from the client computer. In order to temporarily save or store document data from the client computer, it is necessary to install the printer driver called RPCS Driver (1.1.0.0 and later versions) provided by RICOH, which has a function that supports TLS (IPP over SSL). In addition, in order to store document data for fax transmission from the client computer, it is necessary to install the fax driver called PC FAX Generic Driver (13.0.0.0 and later versions) provided by RICOH, which has a function that supports TLS (IPP over SSL). For the client computer that receives e-mail, it is necessary to install a mail client that supports S/MIME.

- 
- SMB server
    - A server that is used to send document data scanned by the Scanner Function of the TOE using the SMB protocol. The communication is protected by IPsec. It is necessary to use the folder transmission function.
  - FTP server
    - A server that is used to send document data scanned by the Scanner Function of the TOE using the FTP protocol. The communication is protected by IPsec. It is necessary to use the folder transmission function.
  - Mail server
    - A server that is used when the TOE sends e-mail. The server supports the SMTP protocol. It is necessary to use the e-mail transmission of attachments function.
  - syslog server
    - A server that can receive the audit log recorded by the TOE. The server uses the syslog protocol and has a TLS-enabled service installed. The audit log can be transferred to the syslog server as well. If the transfer setting is enabled, this server is used as a destination of the audit log.

The TOE is connected to the LAN to use the network, and connected to the telephone line to send and receive data to and from external faxes. In order to connect the TOE to an external network, it is necessary to set up a firewall to protect the TOE from unauthorised access from the external network.

Hardware and software other than TOE that was used in the TOE evaluation are shown below.

- Client computer
  - OS: Windows 10 and Windows 11
  - Printer driver: RPCS Driver 1.1.0.0
  - Fax driver: PC FAX Generic Driver 13.0.0.0
  - Web browser: Microsoft Edge 107
  - Mail client: Thunderbird 102.6.0
- SMB server: Windows 10
- FTP server: Windows 10 (IIS10) version V10.0.19041.804  
Linux (Ubuntu 20.04) vsftpd 3.0.3
- Mail server: Windows 10 P-Mail Server Manager version 1.91
- syslog server: Linux (Ubuntu 20.04) rsyslogd 8.2001.0

## 1.4 TOE Description

This section describes the physical boundary and the logical boundary of the TOE.

### 1.4.1 Physical Boundary of TOE

The TOE consists of the MFP products in Table 1, optional products in Table 2, and guidance documents in Table 6 and Table 7.



The version indicating the software of the Fax Controller Unit (\*1) in Table 4) is "F-02.00.00", and the configuration excluding the software of the Fax Controller Unit from the software and hardware version and part number configuration "J-1.01" in Table 4 is "J-1.01\_NO\_FAX". The target MFP product is the one equipped with hardware and software of a version listed in Table 5.

The MFP product is the MFP on which the hardware and software that configure the versions shown in Table 5 ("J-1.01" or "J-1.01\_NO\_FAX") run. "HDD Option Type M52" is the hardware of HDD, and must be installed on all MFPs. "Fax Unit Type M53, version F-02.00.00" is a hardware board in which software is installed, and must be installed on the MFP whose version is "J-1.01\_NO\_FAX".

A delivery company delivers the MFP and the optional product to users.

Either guidance document set of [Japanese Version 1] or [Japanese Version 2] will be delivered. Some guidance documents are included in the MFP product, and others are delivered through the Web.

Guidance documents will be delivered to users in the combinations described below.

**Table 5 : Combinations to be Delivered**

| No. | MFP             |            |               | Optional Product    |            | Guidance Document    | Remarks                                                       |
|-----|-----------------|------------|---------------|---------------------|------------|----------------------|---------------------------------------------------------------|
|     | Product Name    | Model Code | Version       | Product Name        | Version    |                      |                                                               |
| 1   | RICOH IM C6010  | D0E4-00    | J-1.01_NO_FAX | Fax Unit Type M53   | F-02.00.00 | [Japanese Version-1] | SPDF is installed as standard                                 |
|     |                 |            |               | HDD Option Type M52 | None       |                      |                                                               |
| 2   | RICOH IM C6010  | D0E4-05    | J-1.01_NO_FAX | Fax Unit Type M53   | F-02.00.00 | [Japanese Version-2] | SPDF is installed as standard                                 |
|     |                 |            |               | HDD Option Type M52 | None       |                      |                                                               |
| 3   | RICOH IM C6010F | D0E4-01    | J-1.01        | HDD Option Type M52 | None       | [Japanese Version-1] | SPDF is installed as standard<br>FAX is installed as standard |
| 4   | RICOH IM C6010F | D0E4-06    | J-1.01        | HDD Option Type M52 | None       | [Japanese Version-2] | SPDF is installed as standard<br>FAX is installed as standard |

| No. | MFP             |            |               | Optional Product    |            | Guidance Document    | Remarks                                                       |
|-----|-----------------|------------|---------------|---------------------|------------|----------------------|---------------------------------------------------------------|
|     | Product Name    | Model Code | Version       | Product Name        | Version    |                      |                                                               |
| 5   | RICOH IM C5510  | D0E3-00    | J-1.01_NO_FAX | Fax Unit Type M53   | F-02.00.00 | [Japanese Version-1] | No standard ADF                                               |
|     |                 |            |               | HDD Option Type M52 | None       |                      |                                                               |
| 6   | RICOH IM C5510  | D0E3-05    | J-1.01_NO_FAX | Fax Unit Type M53   | F-02.00.00 | [Japanese Version-2] | No standard ADF                                               |
|     |                 |            |               | HDD Option Type M52 | None       |                      |                                                               |
| 7   | RICOH IM C5510A | D0E3-04    | J-1.01_NO_FAX | Fax Unit Type M53   | F-02.00.00 | [Japanese Version-1] | SPDF is installed as standard                                 |
|     |                 |            |               | HDD Option Type M52 | None       |                      |                                                               |
| 8   | RICOH IM C5510A | D0E3-07    | J-1.01_NO_FAX | Fax Unit Type M53   | F-02.00.00 | [Japanese Version-2] | SPDF is installed as standard                                 |
|     |                 |            |               | HDD Option Type M52 | None       |                      |                                                               |
| 9   | RICOH IM C5510F | D0E3-01    | J-1.01        | HDD Option Type M52 | None       | [Japanese Version-1] | ARDF is installed as standard<br>FAX is installed as standard |
| 10  | RICOH IM C5510F | D0E3-06    | J-1.01        | HDD Option Type M52 | None       | [Japanese Version-2] | ARDF is installed as standard<br>FAX is installed as standard |
| 11  | RICOH IM C4510  | D0E2-00    | J-1.01_NO_FAX | Fax Unit Type M53   | F-02.00.00 | [Japanese Version-1] | No standard ADF                                               |
|     |                 |            |               | HDD Option Type M52 | None       |                      |                                                               |
| 12  | RICOH IM C4510  | D0E2-05    | J-1.01_NO_FAX | Fax Unit Type M53   | F-02.00.00 | [Japanese Version-2] | No standard ADF                                               |

| No. | MFP             |            |               | Optional Product    |            | Guidance Document    | Remarks                                                       |
|-----|-----------------|------------|---------------|---------------------|------------|----------------------|---------------------------------------------------------------|
|     | Product Name    | Model Code | Version       | Product Name        | Version    |                      |                                                               |
|     |                 |            |               | HDD Option Type M52 | None       |                      |                                                               |
| 13  | RICOH IM C4510A | D0E2-04    | J-1.01_NO_FAX | Fax Unit Type M53   | F-02.00.00 | [Japanese Version-1] | SPDF is installed as standard                                 |
|     |                 |            |               | HDD Option Type M52 | None       |                      |                                                               |
| 14  | RICOH IM C4510A | D0E2-07    | J-1.01_NO_FAX | Fax Unit Type M53   | F-02.00.00 | [Japanese Version-2] | SPDF is installed as standard                                 |
|     |                 |            |               | HDD Option Type M52 | None       |                      |                                                               |
| 15  | RICOH IM C4510F | D0E2-01    | J-1.01        | HDD Option Type M52 | None       | [Japanese Version-1] | ARDF is installed as standard<br>FAX is installed as standard |
| 16  | RICOH IM C4510F | D0E2-06    | J-1.01        | HDD Option Type M52 | None       | [Japanese Version-2] | ARDF is installed as standard<br>FAX is installed as standard |

Table 6 and Table 7 show guidance documents, formats, and delivery methods for each guidance document set of [Japanese Version 1] and [Japanese Version 2].

**Table 6 : Guidance Documents for [Japanese Version-1]**

| No. | Part Number | Guidance Document Name | Format   | Delivery Method         |
|-----|-------------|------------------------|----------|-------------------------|
| 1   | D0E3-7503   | かんたん操作ガイド              | Brochure | Included in the product |
| 2   | D0E3-7513   | 本製品をお使いのお客様へ           | Brochure | Included in the product |
| 3   | D0E3-7541   | 本機をお使いのお客様へ            | Brochure | Included in the product |

| No. | Part Number             | Guidance Document Name                                                                                                                | Format   | Delivery Method         |
|-----|-------------------------|---------------------------------------------------------------------------------------------------------------------------------------|----------|-------------------------|
| 4   | D0E3-7544               | 本機を安全にご利用いただくために                                                                                                                      | Brochure | Included in the product |
| 5   | D0E3-7552               | 本機を廃棄するときに守っていただきたいこと                                                                                                                 | Brochure | Included in the product |
| 6   | D0E3-7506               | 安全上のご注意                                                                                                                               | PDF      | Through the Web         |
| 7   | D0E37515                | セキュリティリファレンス                                                                                                                          | HTML     | Through the Web         |
| 8   | D0E37508                | 使用説明書<br>RICOH IM<br>C6010F/C6010/C5510F/C5510A/C5510/C4510F/C4510<br>A/C4510/C3510F/C3510/C3010F/C3010/C2510F/C2510<br>/C2010F/C2010 | HTML     | Through the Web         |
| 9   | D0E3-7510<br>2023.09.28 | セキュリティ機能をお使いになるお客様へ                                                                                                                   | PDF      | Through the Web         |
| 10  | D0E3-7509<br>2023.10.06 | IEEE Std 2600.2™-2009 準拠でお使いになる管理者の方へ                                                                                                 | PDF      | Through the Web         |
| 11  | 83NHEX-<br>JAR1.10 v280 | ヘルプ                                                                                                                                   | HTML     | Through the Web         |

Guidance documents to be delivered through the Web can be downloaded from the following URL.

[https://support.ricoh.com/services/device/ccmanual/IM\\_C6010\\_C5510\\_C4510/ja/Guidance\\_ja.zip](https://support.ricoh.com/services/device/ccmanual/IM_C6010_C5510_C4510/ja/Guidance_ja.zip)

Hash value (SHA256): 861ccc231f35f3efa498a6ec8be9269b802e1de5a99609713df313ab1671e3e2

**Table 7 : Guidance Documents for [Japanese Version-2]**

| No. | Part Number | Guidance Document Name | Format   | Delivery Method         |
|-----|-------------|------------------------|----------|-------------------------|
| 1   | D0E3-7504   | かんたん操作ガイド              | Brochure | Included in the product |
| 2   | D0E3-7514   | 本製品をお使いのお客様へ           | Brochure | Included in the product |
| 3   | D0E3-7542   | 本機をお使いのお客様へ            | Brochure | Included in the product |
| 4   | D0E3-7545   | 本機を安全にご利用いただくために       | Brochure | Included in the product |

| No. | Part Number             | Guidance Document Name                                                                                                        | Format   | Delivery Method         |
|-----|-------------------------|-------------------------------------------------------------------------------------------------------------------------------|----------|-------------------------|
| 5   | D0E3-7553               | 本機を廃棄するときに守っていただきたいこと                                                                                                         | Brochure | Included in the product |
| 6   | D0E3-7506               | 安全上のご注意                                                                                                                       | PDF      | Through the Web         |
| 7   | D0E37515                | セキュリティーリファレンス                                                                                                                 | HTML     | Through the Web         |
| 8   | D0E37508                | 使用説明書<br>RICOH IM<br>C6010F/C6010/C5510F/C5510A/C5510/C4510F/C4510A/C4510/C3510F/C3510/C3010F/C3010/C2510F/C2510/C2010F/C2010 | HTML     | Through the Web         |
| 9   | D0E3-7510<br>2023.09.28 | セキュリティー機能をお使いになるお客様へ                                                                                                          | PDF      | Through the Web         |
| 10  | D0E3-7509<br>2023.10.06 | IEEE Std 2600.2™-2009 準拠でお使いになる管理者の方へ                                                                                         | PDF      | Through the Web         |
| 11  | 83NHEX-<br>JAR1.10 v280 | ヘルプ                                                                                                                           | HTML     | Through the Web         |

Guidance documents to be delivered through the Web can be downloaded from the following URL.

[https://support.ricoh.com/services/device/ccmanual/IM\\_C6010\\_C5510\\_C4510/ja/Guidance\\_ja.zip](https://support.ricoh.com/services/device/ccmanual/IM_C6010_C5510_C4510/ja/Guidance_ja.zip)

Hash value (SHA256): 861ccc231f35f3efa498a6ec8be9269b802e1de5a99609713df313ab1671e3e2

#### 1.4.2 Logical Boundary of TOE

The logical boundary of the TOE is described below.

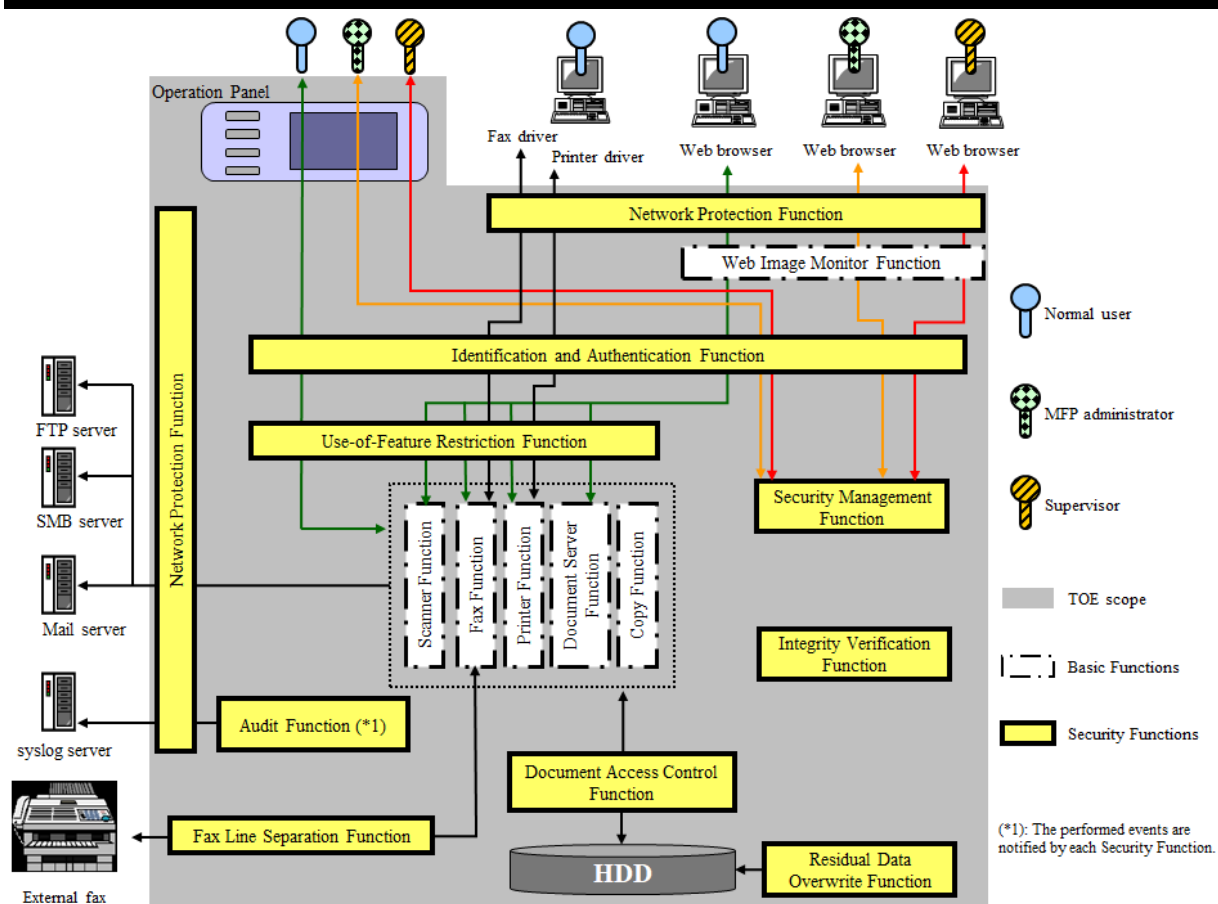


Figure 2: Logical Boundary of the TOE

#### 1.4.2.1. Basic Functions

The overview of the Basic Functions is described as follows. The Copy Function, Printer Function, Scanner Function, Fax Function, and Document Server Function are MFP applications of the TOE, and the PP SFR Package function that each function has is shown in parentheses.

##### Copy Function

The Copy Function has a function to scan a paper document and then copy and print the scanned image data from the Operation Panel (F.CPY). Also, image to be copied and printed can be stored in the TOE (F.SCN and F.DSR). The document data stored at this time can be operated as a Document Server document from the Operation Panel or Web browser by using the Document Server Function.

##### Printer Function

The Printer Function temporarily saves the document data received from the printer driver by specifying a print method that is handled as temporary saving in the TOE. The document data is then printed, previewed, or deleted from the Operation Panel, or deleted from the Web browser as a temporary saved document (F.PRT).

---

When the print method is specified as stored print in the printer driver, the document data received by the TOE from the printer driver can be stored in the TOE, and the stored document data can be printed, previewed, or deleted from the Operation Panel, or can be deleted from the Web browser as a stored print document (F.DSR. F.DSR and F.PRT only for printing).

When the print method is specified as Document Server storage in the printer driver, the document data can be stored in the TOE from the printer driver (F.DSR). The document data stored at this time can be operated as a Document Server document from the Operation Panel or Web browser by using the Document Server Function.

### **Scanner Function**

The Scanner Function has a function to scan a paper document and then send the scanned image data to FTP server or SMB server by using folder transmission, and to the mail server by using e-mail transmission of attachments from the Operation Panel. The data can also be previewed on the Operation Panel before sending (F.SCN).

The scanned image of the paper document from the Operation Panel can be stored in the TOE (F.SCN and F.DSR). The stored document data can be sent by using the folder transmission or e-mail transmission of attachments functions, previewed, or deleted as a scanned document from the Operation Panel (F.DSR). The document data stored at this time can also be operated as a scanned document from the Web browser by using the Document Server Function.

### **Fax Function**

The Fax Function consists of Fax Transmission Function and Fax Reception Function. The fax compliant with the G3 standard, which uses a telephone line, is the target of evaluation.

The Fax Transmission Function has a function to send scanned image of paper documents as document data to external fax devices from the Operation Panel. The data can also be previewed on the Operation Panel before sending (F.FAX).

Also, the scanned image of paper documents from the Operation Panel can be stored in the TOE (F.SCN and F.DSR), or the received document data from the fax driver can be stored in the TOE. The stored document data can be sent by fax transmission, previewed, or deleted as a fax transmission document from the Operation Panel (F.DSR). The document data stored at this time can also be operated as a fax transmission document from the Operation Panel or Web browser by using the Document Server Function.

The Fax Reception Function has a function to receive document data from external fax devices via a telephone line (F.FAX), and then store it in the TOE (F.DSR). The stored document data can be printed, previewed, or deleted as a fax reception document from the Operation Panel, or can be downloaded, previewed, or deleted from the Web browser (F.DSR. F.DSR and F.PRT only for printing).

### **Document Server Function**

The Document Server Function stores the scanned image of paper documents in the TOE from the Operation Panel (F.SCN and F.DSR). As a Document Server document, the stored document data is printed, previewed, or deleted from the Operation Panel, or previewed or deleted from the Web browser (F.DSR. F.DSR and F.PRT only for printing).

---

The document data stored by other functions also can be operated. (F.DSR for all. F.DSR and F.PRT only for printing). Those document data and operations are shown below.

- Document Server documents (stored by the Copy Function or Printer Function) can be printed, previewed, or deleted from the Operation Panel, or previewed or deleted from the Web browser.
- Fax transmission documents can be printed, previewed, or deleted from the Operation Panel, or can be sent by fax transmission, downloaded, previewed, or deleted from the Web browser.
- Scanned documents can be sent by using folder transmission or e-mail transmission of attachments functions, downloaded, previewed, or deleted from the Web browser.

### **Web Image Monitor Function**

The Web Image Monitor Function is a function for the TOE user to remotely control the TOE from the Web browser. It is sometimes referred to as "WIM".

#### **1.4.2.2. Security Function**

The Security Functions are described as follows.

##### **Audit Function**

The Audit Function is to record a log that associates TOE use events and security-relevant events (hereinafter, "audit events") with user identification information as the audit log. Also, this function provides the recorded audit log in a format that can be audited. The recorded audit log can be downloaded and deleted only by the MFP administrator.

The date and time to be recorded in the audit log are derived from the system clock of the TOE. The oldest audit log is overwritten with the newest audit log when there is insufficient space in the audit log files to append the newest audit log. The TOE can transfer the audit log to the syslog server.

##### **Identification and Authentication Function**

The Identification and Authentication Function is to verify whether a person who attempts to use the TOE is an authorised user by performing identification and authentication with login user name and login password, so that the TOE can allow only the authenticated users to operate the management functions and the MFP applications. This function includes the following functionality:

- Authentication feedback area protection function that displays a login password using dummy letters when entering the login password
- Lockout function that prohibits users from logging in when the number of consecutive authentication failures reaches the threshold
- A function for protection of the quality of login passwords that registers only passwords satisfying the conditions of the minimum character number of passwords and the required character type defined in advance by the MFP administrator
- A function for automatic user logout when no operation is performed for a certain period of time from the logged-in state



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**Document Access Control Function**

The Document Access Control Function is to authorise the operations for document data and user job data by the authorised TOE users who are authenticated by the Identification and Authentication Function. It allows user's operation on the document data and user job data based on the privileges for the user role, or the operation permissions for each user.

**Use-of-Feature Restriction Function**

The Use-of-Feature Restriction Function is to authorise the job execution of the MFP applications by the authorised TOE users who are authenticated by the Identification and Authentication Function based on the user role and the operation permissions for each user.

**Network Protection Function**

The Network Protection Function is to prevent information leakage due to network monitoring and detect alteration of communication details by providing encrypted communication when communicating with trusted IT products. Communication with the client computer when using WIM, printer driver, or fax driver is encrypted by TLS, and communication with SMB server and FTP server when using folder transmission is protected by IPsec. Also, communication with mail server when using e-mail transmission of attachments is protected by S/MIME, and communication with syslog server when the audit log transfer setting is enabled is encrypted by TLS.

**Residual Data Overwrite Function**

The Residual Data Overwrite Function is to overwrite random numbers or specific pattern data on the HDD and disable the reusing of the residual data included in deleted document data, temporary document data and their fragments on the HDD.

**Security Management Function**

The Security Management Function is to control operations for TSF data in accordance with user privileges allocated to each user or user role privileges allocated to the normal user, MFP administrator, and supervisor. In order to enable control, this function includes a function to maintain the user role of operating the Security Management Function and associate the user role with the authorised TOE user authenticated by the Identification and Authentication Function, and a function to set appropriate default values for the security attributes.

**Integrity Verification Function**

The Integrity Verification Function is a self-test function to verify that a part of TSF and the TSF executable code have a software configuration that maintains integrity during the MFP initial start-up.

**Fax Line Separation Function**

The Fax Line Separation Function is to restrict the input information from the telephone line to the LAN to only fax reception and prohibit forwarding of received faxes in order to prevent unauthorised intrusion into the LAN from the telephone line (same meaning as Fax Line in this function name).

---

## 2 Conformance Claim

This section describes Conformance Claims.

### 2.1 CC Conformance Claim

The CC conformance claim of this ST and TOE is as follows:

- CC version for which this ST and TOE claim conformance

Part 1:

Introduction and general model April 2017 Version 3.1 Revision 5 (Japanese translation ver.1.0)  
CCMB-2017-04-001

Part 2:

Security functional components April 2017 Version 3.1 Revision 5 (Japanese translation ver.1.0)  
CCMB-2017-04-002

Part 3:

Security assurance components April 2017 Version 3.1 Revision 5 (Japanese translation ver.1.0)  
CCMB-2017-04-003

- Functional requirements: Part 2 extended
- Assurance requirements: Part 3 conformance

### 2.2 PP Claims

The PP to which this ST and TOE are demonstrable conformant is:

PP Name/Identification: U.S. Government Approved Protection Profile - U.S. Government Protection Profile for Hardcopy Devices Version 1.0 (IEEE Std 2600.2™-2009)

Version: 1.0

*Notes: This PP conforms to "IEEE Standard Protection Profile for Hardcopy Devices in IEEE Std 2600-2008, Operational Environment B", published in Common Criteria Portal, and also satisfies "CCEVS Policy Letter #20".*

### 2.3 Package Claims

The package conformance claims of this ST are described below.

This ST and TOE claim augmentation of package: EAL2, and augment assurance components of ALC\_FLR.2. It conforms to the package names described in the Package Reference below.

**Table 8 : Package Reference**

| Title                                                                                                                 | Package Version       |
|-----------------------------------------------------------------------------------------------------------------------|-----------------------|
| 2600.2-PRT, SFR Package for Hardcopy Device Print Functions, Operational Environment B                                | 1.0, dated March 2009 |
| 2600.2-SCN, SFR Package for Hardcopy Device Scan Functions, Operational Environment B                                 | 1.0, dated March 2009 |
| 2600.2-CPY, SFR Package for Hardcopy Device Copy Functions, Operational Environment B                                 | 1.0, dated March 2009 |
| 2600.2-FAX, SFR Package for Hardcopy Device Fax Functions, Operational Environment B                                  | 1.0, dated March 2009 |
| 2600.2-DSR, SFR Package for Hardcopy Device Document Storage and Retrieval (DSR) Functions, Operational Environment B | 1.0, dated March 2009 |
| 2600.2-SMI, SFR Package for Hardcopy Device Shared-medium Interface Functions, Operational Environment B              | 1.0, dated March 2009 |

## 2.4 Conformance Claim Rationale

### 2.4.1 Consistency Claim with TOE Type in PP

The product type targeted by the PP is the Hardcopy devices (hereinafter, HCDs). The HCDs consist of the scanner device and print device, and have the interface to connect telephone line. The HCDs combine these devices and equip one or more functions of Printer (F.PRT), Scanner (F.SCN), Copy (F.CPY), or Fax (F.FAX) Function. Some HCDs have a non-volatile memory medium such as hard disk drive and the Document Server Function (F.DSR). The type of this TOE is MFP. As an MFP, the TOE equips a non-volatile memory medium, interface for connecting telephone line, scanner device, and print device, and has the Copy, Scanner, Printer, Fax, and Document Server Functions. These allow printing (F.PRT), scanning (F.SCN), copying (F.CPY), faxing (F.FAX), and saving/retrieving documents (F.DSR). It can be said that MFP (the type of this TOE) has the characteristics of HCDs and is consistent with the TOE type of the PP.

### 2.4.2 Consistency Claim with Security Problems and Security Objectives in PP

Security Problem Definitions in section 3 of this ST defines all security problems of the PP, and Security Objectives in section 4 of this ST defines all security objectives of the PP. Described below are the rationale for these security problems and security objectives that conform to the PP.

Although the PP is written in English, Security Problem Definitions in section 3 and Security Objectives in section 4 are translated from English into Japanese. When translating into Japanese, not all PP translation was literal, and some expressions were made comprehensible. This, however, does not mean that its description deviates from the requirements of the PP conformance.

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For those points mentioned above, the security problems and security objectives in this ST are consistent with those in the PP.

### **2.4.3 Consistency Claim with Security Requirements in PP**

The SARs of this TOE are consistent with the PP as no augmentation or deletion has been made for the contents of the PP.

The SFRs for this TOE consist of the Common Security Functional Requirements, 2600.2-PRT, 2600.2-SCN, 2600.2-CPY, 2600.2-FAX, 2600.2-DSR, and 2600.2-SMI. The Common Security Functional Requirements are the indispensable SFR specified by the PP. 2600.2-PRT, 2600.2-SCN, 2600.2-CPY, 2600.2-FAX, 2600.2-DSR, and 2600.2-SMI are selected from the SFR Package specified by the PP. 2600.2-NVS is not selected because this TOE does not have any non-volatile memory medium that is detachable.

Although the security requirements of this ST were partly augmented and instantiated over the security requirements of the PP, they are still consistent with the PP. Described below are the parts augmented and instantiated with the reasons for their consistency with the PP.

#### **Augmentation of FAU\_STG.1, FAU\_STG.4, FAU\_SAR.1, and FAU\_SAR.2**

FAU\_STG.1, FAU\_STG.4, FAU\_SAR.1, and FAU\_SAR.2 are augmented according to PP APPLICATION NOTE 7 in order for this TOE to maintain and manage the audit logs.

#### **Augmentation of FIA\_AFL.1, FIA\_UAU.7, and FIA\_SOS.1**

For the Identification and Authentication Function, this TOE augments FIA\_AFL.1, FIA\_UAU.7, and FIA\_SOS.1 according to PP APPLICATION NOTE 38.

#### **Augmentation of FMT\_MOF.1**

This TOE satisfies the common security requirements in the PP for O.PROT.NO\_ALT, and also augments FMT\_MOF.1 that restricts the operation and suspension of management functions related to audit log settings to the MFP administrator. This augmentation is more restrictive than the requirements in the PP, because all TOEs that satisfy this ST also satisfy the PP without mitigating other requirements. Therefore, it conforms to the PP although FMT\_MOF.1 is augmented.

#### **Consistency Claim of FAU\_GEN.1**

For auditable events related to FMT\_SMR.1, although it is described as "Modifications to the group of users that are part of a role" in the audit information required in the PP, it is described as "No record because there is no function for modifications to the group of users" in this TOE. This is because user roles of this TOE cannot be changed to other roles. This is not an auditable event, and it can be said that it conforms to the PP. Regarding other auditable events, this TOE covers more auditable events than that required or recommended by the PP, but these are augmented while the audit information and levels required or recommended by the PP are satisfied, so it can be said that it conforms to the PP.

### **Administrator Classification**

In this ST, U.ADMINISTRATOR is classified into MFP administrator and supervisor. The administrator classification is made to the extent that none of the roles deviates from the definition of U.ADMINISTRATOR in the PP as a user who is specifically allowed to manage the entire TOE or a part of it and whose actions affect the TOE security policy, so it can be said that it conforms to the PP.

### **Consistency Rationale of FDP\_ACF.1(a)**

In FDP\_ACF.1(a), this ST also describes the access control rule for +CPY document data. CPY SFR Package in the PP does not require access control, but this access control rule is more restrictive in accordance with PP APPLICATION NOTE 88, so it can be said that it conforms to the PP.

Therefore, FDP\_ACF.1(a) in this ST satisfies FDP\_ACF.1(a) in the PP.

### 3 Security Problem Definitions

This section describes Users, Assets, Threats, Organisational Security Policies, and Assumptions.

#### 3.1 Definition of Users

This section defines the users related to the TOE.

The users consist of normal users and administrators, and the administrator are divided into the MFP administrator and the supervisor.

As described in Table 9, the users are classified according to their respective roles, and have user privileges based on the roles of normal users, MFP administrators, and a supervisor.

**Table 9 : Definition of Users**

| Definition of Users |                                    | Explanation                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|---------------------|------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| User<br>(U.USER)    | Normal user<br>(U.NORMAL)          | A user who is allowed to use the TOE. A normal user is provided with a login user name, and can use the MFP applications.                                                                                                                                                                                                                                                                                                                                              |
|                     | Administrator<br>(U.ADMINISTRATOR) | MFP administrator                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|                     |                                    | Supervisor                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|                     |                                    | <p>A user who has the privilege to manage the TOE, including:</p> <ul style="list-style-type: none"> <li>- Operation of configuration of normal user settings</li> <li>- Operation of setting information related to MFP device behaviour</li> <li>- Operation of audit logs</li> <li>- Operation of configuration of network settings</li> <li>- Access management of fax reception document</li> <li>- Unlocking locked-out normal users and a supervisor</li> </ul> |
|                     |                                    | <p>A user who has the privilege to manage the TOE, including:</p> <ul style="list-style-type: none"> <li>- Changing login password of MFP administrators</li> <li>- Unlocking locked-out MFP administrators</li> </ul>                                                                                                                                                                                                                                                 |

#### 3.2 Assets

Assets to be protected by the TOE are user data, TSF data, and functions. Table 10 shows the definitions.

**Table 10 : Asset Categories**

| Category  | Definition                                                                                                                                                            |
|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| User data | Data for the user created by the user, that does not affect the operation of the TSF.                                                                                 |
| TSF data  | Data for the TOE created by the TOE, that may affect the operation of the TSF.                                                                                        |
| Functions | The MFP applications provided by the TOE to print (F.PRT), scan (F.SCN), copy (F.CPY), fax (F.FAX), and save and retrieve documents (F.DSR) to operate the user data. |

### 3.2.1 User Data

The user data is categorized into document data and user job data. Table 11 defines categories.

**Table 11 : Definitions of User Data**

| Category                  | Definition                                                                                                           |
|---------------------------|----------------------------------------------------------------------------------------------------------------------|
| Document data<br>(D.DOC)  | Paper documents, digitised documents, deleted documents, temporary documents, or their fragments managed by the TOE. |
| User job data<br>(D.FUNC) | Information related to the user's document or document processing job.                                               |

### 3.2.2 TSF Data

The TSF data is categorized into TSF protected data and TSF confidential data. Table 12 defines categories.

**Table 12 : TSF Data Categories**

| Category                          | Definition                                                                                                                                     |
|-----------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|
| TSF protected data<br>(D.PROT)    | This data must be protected from modifications by unauthorised persons. No security threat will occur even this data is exposed to the public. |
| TSF confidential data<br>(D.CONF) | This data must be protected from modifications by unauthorised persons and reading by users without viewing permissions.                       |

The TSF data handled by this TOE for each category are shown below.

**Table 13 : Definitions of TSF Data**

| Category                       | TSF Data           | Description                           |
|--------------------------------|--------------------|---------------------------------------|
| TSF protected data<br>(D.PROT) | Lockout settings   | Settings related to lockout policies. |
|                                | Date/time settings | Settings related to date/time.        |

|                                                                              |                                                                                                                                                                                                                                                                                                                                              |
|------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Password quality settings                                                    | Settings of the minimum character number and the combination of characters to be registered for user authentication regarding the password policy.                                                                                                                                                                                           |
| Auto Logout settings                                                         | Auto Logout settings for the Operation Panel and Auto Logout settings for the WIM.                                                                                                                                                                                                                                                           |
| S/MIME user information                                                      | Information required for e-mail transmission of attachments using S/MIME. This information consists of items set for each user (e-mail address and user certificate) and S/MIME setting (encryption setting). This information is registered and managed by the MFP administrator.                                                           |
| Destination folder                                                           | Destination information for the folder transmission function. This includes the path information to the destination server and the folder in the server, and information including identification and authentication information for user access. This information is registered and managed by the MFP administrator.                       |
| Audit log settings                                                           | Settings related to the transfer of audit logs.                                                                                                                                                                                                                                                                                              |
| Cryptographic communication settings                                         | Settings related to TLS and IPsec communication with clients and servers.                                                                                                                                                                                                                                                                    |
| Signature for integrity verification                                         | A signature stored in the TOE for integrity verification of MFP Control Software by the signature.                                                                                                                                                                                                                                           |
| Login user name                                                              | User identifier associated with any of the normal user, MFP administrator, or supervisor. The TOE identifies users by this identifier.                                                                                                                                                                                                       |
| User role                                                                    | Any role of normal user, MFP administrator, or supervisor who uses the TOE.                                                                                                                                                                                                                                                                  |
| Document data owner information                                              | The security attribute of the document data. The owner information of the document data (the login user name) is set.<br>For the document data received via a telephone line (+DSR, Fax reception document), the list of login user names is set.                                                                                            |
| List for users who have been granted access permission for the document data | The security attribute of the document data (+DSR), excluding the document data received via a telephone line (Fax reception document).<br>The information of the users (the login user names) who are allowed access (viewing) the document data is set.<br>The document data owner can allow other normal users to read the document data. |
| User job data owner information                                              | The security attribute of the user job data. The user job data owner information (the login user name) is set.                                                                                                                                                                                                                               |
| Available function list                                                      | The attribute given to normal users. The list of functions (MFP applications) that are allowed to be used is given to normal users.                                                                                                                                                                                                          |
| Function type                                                                | MFP application attribute, such as Copy Function, Printer Function, Scanner Function, Fax Function, and Document Server Function.                                                                                                                                                                                                            |



|                                   |                |                                                       |
|-----------------------------------|----------------|-------------------------------------------------------|
| TSF confidential data<br>(D.CONF) | Login password | A password associated with each login user name.      |
|                                   | Audit log      | Audit log data in which occurred events are recorded. |

### 3.3 Threats

Defined and described below are the assumed threats related to the use of this TOE and the operational environment. The threats defined in this section are unauthorised persons with knowledge of published information about the TOE operations. Such attackers are capable of Basic level of attack potential.

|                   |                                                                                                                                  |
|-------------------|----------------------------------------------------------------------------------------------------------------------------------|
| <b>T.DOC.DIS</b>  | <b>Document data disclosure</b><br>Document data managed by the TOE may be disclosed by unauthorised persons.                    |
| <b>T.DOC.ALT</b>  | <b>Document data alteration</b><br>Document data managed by the TOE may be altered by unauthorised persons.                      |
| <b>T.FUNC.ALT</b> | <b>User job data alteration</b><br>User job data managed by the TOE may be altered by unauthorised persons.                      |
| <b>T.PROT.ALT</b> | <b>Alteration of TSF protected data</b><br>TSF protected data managed by the TOE may be altered by unauthorised persons.         |
| <b>T.CONF.DIS</b> | <b>Disclosure of TSF confidential data</b><br>TSF confidential data managed by the TOE may be disclosed by unauthorised persons. |
| <b>T.CONF.ALT</b> | <b>Alteration of TSF confidential data</b><br>TSF confidential data managed by the TOE may be altered by unauthorised persons.   |

### 3.4 Organisational Security Policies

The following organisational security policies are taken.

|                                |                                                                                                                                                                                      |
|--------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>P.USER.AUTHORIZATION</b>    | <b>User identification and authentication</b><br>To maintain operational accountability and security, give users the authority to use the TOE only when authorized by the TOE owner. |
| <b>P.SOFTWARE.VERIFICATION</b> | <b>Software verification</b><br>To detect corruption of the executable code in TSF, implement procedures to self-test the executable code.                                           |

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**P.AUDIT.LOGGING**                      **Management of audit log records**

To maintain operational accountability and security, create and maintain records that provide audit trail of TOE use and security-relevant events, protect them from unauthorised disclosure and alteration, and make them viewable only by authorised persons.

**P.INTERFACE.MANAGEMENT**    **Management of external interfaces**

To prevent unauthorised use of the external interfaces of the TOE, control the operation of those interfaces by the TOE and its IT environment.

### 3.5 Assumptions

The assumptions related to this TOE operational environment are identified and described.

**A.ACCESS.MANAGED**            **Access management**

The TOE is placed in a restricted or monitored environment that is protected from unauthorised access to the physical components of the TOE and data interfaces.

**A.USER.TRAINING**                **User training**

Users of the TOE are aware of the security policies and procedures of their organisation, are trained to follow those policies and procedures, and gain competence to follow them.

**A.ADMIN.TRAINING**            **Administrator training**

Administrators are aware of the security policies and procedures of their organisation, are trained to follow the guidance and documents of the manufacturer, gain competence to follow them, and are able to configure and operate the TOE properly according to those policies and procedures.

**A.ADMIN.TRUST**                 **Trusted administrator**

Administrators do not use their access rights for malicious purposes.

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## 4 Security Objectives

This section describes Security Objectives for TOE, Security Objectives for Operational Environment, and Security Objectives Rationale.

### 4.1 Security Objectives for TOE

This section describes the security objectives for the TOE.

- O.DOC.NO\_DIS      Protection of document data disclosure**  
The TOE shall protect document data from being disclosed by unauthorised persons.
- O.DOC.NO\_ALT      Protection of document data alteration**  
The TOE shall protect document data from being altered by unauthorised persons.
- O.FUNC.NO\_ALT      Protection of user job data alteration**  
The TOE shall protect user job data from being altered by unauthorised persons.
- O.PROT.NO\_ALT      Protection of TSF protected data alteration**  
The TOE shall protect TSF protected data from being altered by unauthorised persons.
- O.CONF.NO\_DIS      Protection of TSF confidential data disclosure**  
The TOE shall protect TSF confidential data from being disclosed by unauthorised persons.
- O.CONF.NO\_ALT      Protection of TSF confidential data alteration**  
The TOE shall protect TSF confidential data from being altered by unauthorised persons.
- O.USER.AUTHORIZED      User identification and authentication**  
The TOE shall require identification and authentication of users, give users the access rights according to the security policies, and then ensure that users are allowed to use the TOE.
- O.INTERFACE.MANAGED      Management of external interfaces by TOE**  
The TOE shall manage the operation of external interfaces in accordance with the security policies.
- O.SOFTWARE.VERIFIED      Software verification**  
The TOE shall provide procedures to self-verify the executable code in the TSF.

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**O.AUDIT.LOGGED Management of audit log records**

The TOE shall record and manage events related to the TOE use and security, and prevent unauthorised disclosure and alteration.

**4.2 Security Objectives for Operational Environment**

This section describes the security objectives for the operational environment.

**4.2.1 IT Environment****OE.AUDIT\_STORAGE.PROTECTED Audit log protection in trusted IT products**

When exporting audit records from the TOE to another trusted IT product, the TOE owner shall ensure that the audit records are protected from unauthorized access, deletion, and alteration.

**OE.AUDIT\_ACCESS.AUTHORIZED Audit log access control in trusted IT products**

When exporting audit records generated by the TOE from the TOE to another trusted IT product, the TOE owner shall ensure that those records can be accessed in order to detect potential security violations, and only by authorized persons.

**OE.INTERFACE.MANAGED Management of external interfaces in IT environment**

The IT environment shall provide protection against the unauthorised access to the TOE external interfaces.

**4.2.2 Non-IT Environment****OE.PHYSICAL.MANAGED Physical management**

The TOE shall be placed in a secure or monitored area that is protected from unauthorised physical access to the TOE.

**OE.USER.AUTHORIZED Assignment of user authority**

The TOE owner shall give users the authority to use the TOE according to the organisational security policies and procedures.

**OE.USER.TRAINED User training**

The TOE owner shall ensure that users of the TOE are aware of the security policies and procedures of their organisation, are trained to follow those policies and procedures, and gain competence to follow them.

**OE.ADMIN.TRAINED Administrator training**

The TOE owner shall ensure that administrators are aware of the security policies and procedures of their organisation, are trained to follow the guidance and documents of the manufacturer, secure time to gain competence to follow them, and are able to configure and operate the TOE properly according to those policies and procedures.

**OE.ADMIN.TRUSTED Trusted administrator**

The TOE owner shall establish trust so that administrators will not use their access privilege for malicious purposes.

**OE.AUDIT.REVIEWED Log audit**

The TOE owner shall ensure that audit logs are reviewed at appropriate intervals for detecting security violations or unusual patterns of activity.

### 4.3 Security Objectives Rationale

This section describes the rationale for security objectives. The security objectives are for upholding the assumptions, countering the threats, and enforcing the organisational security policies, which are defined.

#### 4.3.1 Correspondence Table of Security Objectives

Table 14 describes the correspondence between the security objectives, and the assumptions to be upheld, threats to be countered and organisational security policies to be enforced.

**Table 14 : Rationale for Security Objectives**

|                         | O.DOC.NO_DIS | O.DOC.NO_ALT | O.FUNC.NO_ALT | O.PROT.NO_ALT | O.CONF.NO_DIS | O.CONF.NO_ALT | O.USER.AUTHORIZED | OE.USER.AUTHORIZED | O.SOFTWARE.VERIFIED | O.AUDIT.LOGGED | OE.AUDIT_STORAGE.PROTECTED | OE.AUDIT_ACCESS.AUTHORIZED | OE.AUDIT.REVIEWED | O.INTERFACE.MANAGED | OE.PHYSICAL.MANAGED | OE.INTERFACE.MANAGED | OE.ADMIN.TRAINED | OE.ADMIN.TRUSTED | OE.USER.TRAINED |
|-------------------------|--------------|--------------|---------------|---------------|---------------|---------------|-------------------|--------------------|---------------------|----------------|----------------------------|----------------------------|-------------------|---------------------|---------------------|----------------------|------------------|------------------|-----------------|
| T.DOC.DIS               | X            |              |               |               |               |               | X                 | X                  |                     |                |                            |                            |                   |                     |                     |                      |                  |                  |                 |
| T.DOC.ALT               |              | X            |               |               |               |               | X                 | X                  |                     |                |                            |                            |                   |                     |                     |                      |                  |                  |                 |
| T.FUNC.ALT              |              |              | X             |               |               |               | X                 | X                  |                     |                |                            |                            |                   |                     |                     |                      |                  |                  |                 |
| T.PROT.ALT              |              |              |               | X             |               |               | X                 | X                  |                     |                |                            |                            |                   |                     |                     |                      |                  |                  |                 |
| T.CONF.DIS              |              |              |               |               | X             |               | X                 | X                  |                     |                |                            |                            |                   |                     |                     |                      |                  |                  |                 |
| T.CONF.ALT              |              |              |               |               |               | X             | X                 | X                  |                     |                |                            |                            |                   |                     |                     |                      |                  |                  |                 |
| P.USER.AUTHORIZATION    |              |              |               |               |               |               | X                 | X                  |                     |                |                            |                            |                   |                     |                     |                      |                  |                  |                 |
| P.SOFTWARE.VERIFICATION |              |              |               |               |               |               |                   |                    | X                   |                |                            |                            |                   |                     |                     |                      |                  |                  |                 |
| P.AUDIT.LOGGING         |              |              |               |               |               |               |                   |                    |                     | X              | X                          | X                          | X                 |                     |                     |                      |                  |                  |                 |
| P.INTERFACE.MANAGEMENT  |              |              |               |               |               |               |                   |                    |                     |                |                            |                            |                   | X                   |                     | X                    |                  |                  |                 |
| A.ACCESS.MANAGED        |              |              |               |               |               |               |                   |                    |                     |                |                            |                            |                   |                     | X                   |                      |                  |                  |                 |
| A.ADMIN.TRAINING        |              |              |               |               |               |               |                   |                    |                     |                |                            |                            |                   |                     |                     |                      | X                |                  |                 |
| A.ADMIN.TRUST           |              |              |               |               |               |               |                   |                    |                     |                |                            |                            |                   |                     |                     |                      |                  | X                |                 |
| A.USER.TRAINING         |              |              |               |               |               |               |                   |                    |                     |                |                            |                            |                   |                     |                     |                      |                  |                  | X               |

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### 4.3.2 Security Objectives Descriptions

The following describes the rationale for each security objective being appropriate to satisfy the threats, assumptions, and organisational security policies.

#### **T.DOC.DIS**

T.DOC.DIS is countered by O.DOC.NO\_DIS, O.USER.AUTHORIZED, and OE.USER.AUTHORIZED.

By OE.USER.AUTHORIZED, the TOE owner gives users the authority to use the TOE according to the organisational security policies and procedures. By O.USER.AUTHORIZED, the TOE requires identification and authentication of users, gives users the access rights according to the security policies, and then ensures that users are allowed to use the TOE. By O.DOC.NO\_DIS, the TOE protects document data from being disclosed by unauthorised persons.

T.DOC.DIS is countered by these objectives.

#### **T.DOC.ALT**

T.DOC.ALT is countered by O.DOC.NO\_ALT, O.USER.AUTHORIZED, and OE.USER.AUTHORIZED.

By OE.USER.AUTHORIZED, the TOE owner gives users the authority to use the TOE according to the organisational security policies and procedures. By O.USER.AUTHORIZED, the TOE requires identification and authentication of users, gives users the access rights according to the security policies, and then ensures that users are allowed to use the TOE. By O.DOC.NO\_ALT, the TOE protects document data from being altered by unauthorised persons.

T.DOC.ALT is countered by these objectives.

#### **T.FUNC.ALT**

T.FUNC.ALT is countered by O.FUNC.NO\_ALT, O.USER.AUTHORIZED, and OE.USER.AUTHORIZED.

By OE.USER.AUTHORIZED, the TOE owner gives users the authority to use the TOE according to the organisational security policies and procedures. By O.USER.AUTHORIZED, the TOE requires identification and authentication of users, gives users the access rights according to the security policies, and then ensures that users are allowed to use the TOE. By O.FUNC.NO\_ALT, the TOE protects user job data from being altered by unauthorised persons.

T.FUNC.ALT is countered by these objectives.

#### **T.PROT.ALT**

T.PROT.ALT is countered by O.PROT.NO\_ALT, O.USER.AUTHORIZED, and OE.USER.AUTHORIZED.

By OE.USER.AUTHORIZED, the TOE owner gives users the authority to use the TOE according to the organisational security policies and procedures. By O.USER.AUTHORIZED, the TOE requires identification and authentication of users, gives users the access rights according to the security policies, and then ensures that users are allowed to use the TOE. By O.PROT.NO\_ALT, the TOE protects TSF protected data from being altered by unauthorised persons.

T.PROT.ALT is countered by these objectives.

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**T.CONF.DIS**

T.CONF.DIS is countered by O.CONF.NO\_DIS, O.USER.AUTHORIZED, and OE.USER.AUTHORIZED.

By OE.USER.AUTHORIZED, the TOE owner gives users the authority to use the TOE according to the organisational security policies and procedures. By O.USER.AUTHORIZED, the TOE requires identification and authentication of users, gives users the access rights according to the security policies, and then ensures that users are allowed to use the TOE. By O.CONF.NO\_DIS, the TOE protects TSF confidential data from being disclosed by unauthorised persons.

T.CONF.DIS is countered by these objectives.

**T.CONF.ALT**

T.CONF.ALT is countered by O.CONF.NO\_ALT, O.USER.AUTHORIZED, and OE.USER.AUTHORIZED.

By OE.USER.AUTHORIZED, the TOE owner gives users the authority to use the TOE according to the organisational security policies and procedures. By O.USER.AUTHORIZED, the TOE requires identification and authentication of users, gives users the access rights according to the security policies, and then ensures that users are allowed to use the TOE. By O.CONF.NO\_ALT, the TOE protects TSF confidential data from being altered by unauthorised persons.

T.CONF.ALT is countered by these objectives.

**P.USER.AUTHORIZATION**

P.USER.AUTHORIZATION is enforced by O.USER.AUTHORIZED and OE.USER.AUTHORIZED.

By OE.USER.AUTHORIZED, the TOE owner gives users the authority to use the TOE according to the organisational security policies and procedures. By O.USER.AUTHORIZED, the TOE requires identification and authentication of users, gives users the access rights according to the security policies, and then ensures that users are allowed to use the TOE.

P.USER.AUTHORIZATION is enforced by these objectives.

**P.SOFTWARE.VERIFICATION**

P.SOFTWARE.VERIFICATION is enforced by O.SOFTWARE.VERIFIED.

By O.SOFTWARE.VERIFIED, the TOE provides procedures to self-verify the executable code in the TSF.

P.SOFTWARE.VERIFICATION is enforced by this objective.

**P.AUDIT.LOGGING**

P.AUDIT.LOGGING is enforced by O.AUDIT.LOGGED, OE.AUDIT.REVIEWED, OE.AUDIT\_STORAGE.PROTECTED, and OE.AUDIT\_ACCESS.AUTHORIZED.

By O.AUDIT.LOGGED, the TOE records and manages events related to the TOE use and security and prevents unauthorised disclosure or alteration. By OE.AUDIT.REVIEWED, the TOE owner ensures that audit logs are reviewed at appropriate intervals for detecting security violations or unusual patterns of activity.

By OE.AUDIT\_STORAGE.PROTECTED, when audit records are exported from the TOE to another trusted IT product, the TOE owner ensures to protect those records from unauthorised access, deletion, and alteration.

By OE.AUDIT\_ACCESS.AUTHORIZED, when audit records generated by the TOE are exported from the



TOE to another trusted IT product, the TOE owner detects potential security violations and ensures that only authorised persons can access those records.

P.AUDIT.LOGGING is enforced by these objectives.

#### **P.INTERFACE.MANAGEMENT**

P.INTERFACE.MANAGEMENT is enforced by O.INTERFACE.MANAGED and OE.INTERFACE.MANAGED.

By O.INTERFACE.MANAGED, the TOE manages the operation of the external interfaces in accordance with the security policies. By OE.INTERFACE.MANAGED, the IT environment provides protection against unauthorised access to the TOE external interfaces.

P.INTERFACE.MANAGEMENT is enforced by these objectives.

#### **A.ACCESS.MANAGED**

A.ACCESS.MANAGED is upheld by OE.PHYSICAL.MANAGED.

By OE.PHYSICAL.MANAGED, the TOE is placed in a secure or monitored area that is protected from unauthorised physical access to the TOE.

A.ACCESS.MANAGED is upheld by this objective.

#### **A.ADMIN.TRAINING**

A.ADMIN.TRAINING is upheld by OE.ADMIN.TRAINED.

By OE.ADMIN.TRAINED, the TOE owner ensures that administrators are aware of the security policies and procedures of their organisation, are trained to follow the guidance and documents of the manufacturer, secure time to gain competence to follow them, and are able to configure and operate the TOE properly according to those policies and procedures.

A.ADMIN.TRAINING is upheld by this objective.

#### **A.ADMIN.TRUST**

A.ADMIN.TRUST is upheld by OE.ADMIN.TRUSTED.

By OE.ADMIN.TRUSTED, the TOE owner establishes trust so that administrators will not use their access privilege for malicious purposes.

A.ADMIN.TRUST is upheld by this objective.

#### **A.USER.TRAINING**

A.USER.TRAINING is upheld by OE.USER.TRAINED.

By OE.USER.TRAINED, the TOE owner ensures that users of the TOE are aware of the security policies and procedures of their organisation, are trained to follow those policies and procedures, and gain competence to follow them.

A.USER.TRAINING is upheld by this objective.

## 5 Extended Components Definition

This section describes Extended Components Definition.

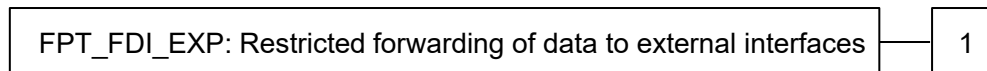
### 5.1 Restricted forwarding of data to external interfaces (FPT\_FDI\_EXP)

#### Family behaviour

This family defines requirements for the TSF to restrict direct forwarding of information from one external interface to another external interface.

Many products are intended to receive information on specific external interfaces, and transform and process this information before it is transmitted on another external interface. However, some products may provide the capability for attackers to misuse external interfaces to violate the security of the TOE or devices that are connected to the TOE's external interfaces. Therefore, direct forwarding of unprocessed data between different external interfaces is forbidden unless explicitly allowed by an authorized administrative role. The family FPT\_FDI\_EXP has been defined to specify this kind of functionality.

#### Component levelling:



FPT\_FDI\_EXP.1 Restricted forwarding of data to external interfaces provides for the functionality to require TSF controlled processing of data received over defined external interfaces before these data are sent out on another external interface. Direct forwarding of data from one external interface to another one requires explicit allowance by an authorized administrative role.

#### Management: FPT\_FDI\_EXP.1

The following actions could be considered for the management functions in FMT:

- a) Definition of the role(s) that are allowed to perform the management activities
- b) Management of the conditions under which direct forwarding can be allowed by an administrative role
- c) Revocation of such an allowance

#### Audit: FPT\_FDI\_EXP.1

The following actions should be auditable if FAU\_GEN Security Audit Data Generation is included in the PP/ST:

There are no auditable events foreseen.

#### Rationale:

---

Quite often, a TOE is supposed to perform specific checks and process data received on one external interface before such (processed) data are allowed to be transferred to another external interface. Examples are firewall systems but also other systems that require a specific work flow for the incoming data before it can be transferred. Direct forwarding of such data (i.e., without processing the data first) between different external interfaces is therefore a function that—if allowed at all—can only be allowed by an authorized role.

It has been viewed as useful to have this functionality as a single component that allows specifying the property to disallow direct forwarding and require that only an authorized role can allow this. Since this is a function that is quite common for a number of products, it has been viewed as useful to define an extended component.

The Common Criteria defines attribute-based control of user data flow in its FDP class. However, in this ST, the authors needed to express the control of both user data and TSF data flow using administrative control instead of attribute-based control. It is considered inappropriate to use FDP\_IFF and FDP\_IFC by applying refinement for this purpose. Therefore, the authors decided to define an extended component to address this functionality.

This extended component protects both user data and TSF data, and it could therefore be placed in either the FDP or the FPT class. Since its purpose is to protect the TOE from misuse, the authors believed that it was most appropriate to place it in the FPT class. It did not fit well in any of the existing families in either class, and this led the authors to define a new family with just one member.

**FPT\_FDI\_EXP.1 Restricted forwarding of data to external interfaces**

Hierarchical to: No other components.

Dependencies: FMT\_SMF.1 Specification of Management Functions  
FMT\_SMR.1 Security roles

FPT\_FDI\_EXP.1.1 The TSF shall provide the capability to restrict data received on **[assignment: list of external interfaces]** from being forwarded without further processing by the TSF to **[assignment: list of external interfaces]**.

## 6 Security Requirements

This section describes Security Functional Requirements, Security Assurance Requirements, and Security Requirements Rationale.

The terms used in this section are defined below.

**Table 15 : Terms Used in Section 6**

| Classification of Term | Name of Term              | Description of Term                                                                                                                                                                                                                                |
|------------------------|---------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Subject                | Normal user process       | A process that acts on behalf of a normal user when the authentication of the normal user is successful.                                                                                                                                           |
|                        | MFP administrator process | A process that acts on behalf of an MFP administrator when the authentication of the MFP administrator is successful.                                                                                                                              |
|                        | Supervisor process        | A process that acts on behalf of a supervisor when the authentication of the supervisor is successful.                                                                                                                                             |
| Object                 | Document data (D.DOC)     | Paper documents, digitised documents, deleted documents, temporary documents, or their fragments managed by the TOE.                                                                                                                               |
|                        | User job data (D.FUNC)    | Information related to the user's document or document processing job.                                                                                                                                                                             |
|                        | MFP application           | General term for Copy Function, Printer Function, Scanner Function, Fax Function, and Document Server Function enforcing SFR package functions in PP (F.CPY, F.PRT, F.SCN, F.FAX, and F.DSR).                                                      |
|                        | F.CPY                     | Copying: a function in which physical document input is duplicated to physical document output                                                                                                                                                     |
|                        | F.PRT                     | Printing: a function in which electronic document input is converted to physical document output                                                                                                                                                   |
|                        | F.SCN                     | Scanning: a function in which physical document input is converted to electronic document output                                                                                                                                                   |
|                        | F.FAX                     | Faxing: a function in which physical document input is converted to a telephone-based document facsimile (fax) transmission, and a function in which a telephone-based document facsimile (fax) reception is converted to physical document output |

| Classification of Term | Name of Term            | Description of Term                                                                                                                                                                                                                                                                                       |
|------------------------|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                        | F.DSR                   | Document storage and retrieval: a function in which a document is stored during one job and retrieved during one or more subsequent jobs                                                                                                                                                                  |
| Operation              | Read                    | To perform print, download, fax transmission, e-mail transmission of attachments, folder transmission, preview, or fax reception.                                                                                                                                                                         |
|                        | Delete                  | To delete TSF data or objects.                                                                                                                                                                                                                                                                            |
|                        | Modify                  | To modify TSF data or objects.                                                                                                                                                                                                                                                                            |
|                        | Query                   | To refer to TSF data.                                                                                                                                                                                                                                                                                     |
|                        | Newly create            | To newly create TSF data.                                                                                                                                                                                                                                                                                 |
|                        | Change_default          | To change the default value of TSF data.                                                                                                                                                                                                                                                                  |
|                        | Execute                 | To execute MFP application jobs.                                                                                                                                                                                                                                                                          |
| Security attribute     | Login user name         | User identifier associated with any of the normal user, MFP administrator, or supervisor. The TOE identifies users by this identifier.                                                                                                                                                                    |
|                        | User role               | Any role of normal user, MFP administrator, or supervisor who uses the TOE.                                                                                                                                                                                                                               |
|                        | Document data attribute | The security attribute that identifies SFR package functions in PP. This is associated with the document data (D.DOC) and the user job data (D.FUNC).<br>This attribute includes +PRT, +SCN, +CPY, +FAXOUT, +FAXIN, and +DSR.<br>This is a security attribute that is not used in the TOE implementation. |
|                        | +PRT                    | One of the document data attributes. It refers to data associated with a print job.                                                                                                                                                                                                                       |
|                        | +SCN                    | One of the document data attributes. It refers to data associated with a scan job.                                                                                                                                                                                                                        |
|                        | +CPY                    | One of the document data attributes. It refers to data associated with a copy job.                                                                                                                                                                                                                        |
|                        | +FAXOUT                 | One of the document data attributes. It refers to data associated with an outbound (transmission) fax job.                                                                                                                                                                                                |
|                        | +FAXIN                  | One of the document data attributes. It refers to data associated with an inbound (reception) fax job.                                                                                                                                                                                                    |

| Classification of Term | Name of Term                                                                 | Description of Term                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|------------------------|------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                        | +DSR                                                                         | One of the document data attributes. It refers to data associated with a job for saving and retrieving documents.                                                                                                                                                                                                                                                                                                                                               |
|                        | Document data owner information                                              | The security attribute of the document data. The document data owner information (the login user name) is set.<br><br>For the document data received via a telephone line (+DSR, Fax reception document), the list of login user names is set.                                                                                                                                                                                                                  |
|                        | List for users who have been granted access permission for the document data | The security attribute of the document data (+DSR), excluding the document data received via a telephone line (Fax reception document).<br>The information of the users (the login user names) who are allowed access (viewing) the document data is set.<br><br>The document data owner can allow other normal users to read the document data.                                                                                                                |
|                        | User job data owner information                                              | The security attribute of the user job data. The user job data owner information (the login user name) is set.                                                                                                                                                                                                                                                                                                                                                  |
|                        | Available function list                                                      | The attribute given to normal users. The list of functions (MFP applications) that are allowed to be used is given to normal users.                                                                                                                                                                                                                                                                                                                             |
|                        | Function type                                                                | MFP application attribute, such as Copy Function, Printer Function, Scanner Function, Fax Function, and Document Server Function.                                                                                                                                                                                                                                                                                                                               |
| External entity        | Normal user                                                                  | A user who is allowed to use the TOE. A normal user is provided with a login user name, and can use the MFP applications.                                                                                                                                                                                                                                                                                                                                       |
|                        | MFP administrator                                                            | A user who has the privilege to manage the TOE, including: <ul style="list-style-type: none"> <li>- Operation of configuration of normal user settings</li> <li>- Operation of setting information related to MFP device behaviour</li> <li>- Operation of audit logs</li> <li>- Operation of configuration of network settings</li> <li>- Access management of fax reception document</li> <li>- Unlocking locked-out normal users and a supervisor</li> </ul> |

| Classification of Term | Name of Term                     | Description of Term                                                                                                                                        |
|------------------------|----------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                        | Supervisor                       | A user who has the privilege to manage the TOE, including:<br>- Changing login password of MFP administrators<br>- Unlocking locked-out MFP administrators |
| Other terms            | MFP Control Software             | A software component installed in the TOE. This component is stored in FlashROM.                                                                           |
|                        | FCU Control Software             | A software component installed in the TOE. This component is stored in the FCU.                                                                            |
|                        | Operation Panel Control Software | A software component installed in the TOE. This component is stored in the Operation Panel Control Board of the Operation Panel.                           |

## 6.1 Security Functional Requirements

This section describes the TOE security functional requirements for fulfilling the security objectives defined in section 4.1. The security functional requirements are quoted from the requirement defined in the CC Part 2. The security functional requirements that are not defined in CC Part 2 are quoted as defined in the SMI SFR Package for extended security functional requirements defined in the PP.

The part with assignment and selection defined in the [CC] is identified with **[bold face and brackets]**.

### 6.1.1 Class FAU: Security audit

#### FAU\_GEN.1 Audit data generation

Hierarchical to: No other components.

Dependencies: FPT\_STM.1 Reliable time stamps

FAU\_GEN.1.1 The TSF shall be able to generate an audit record of the following auditable events:

- a) Start-up and shutdown of the audit functions;
- b) All auditable events for the **[selection: not specified]** level of audit; and
- c) **[assignment: auditable events of the TOE shown in Table 16]**.

FAU\_GEN.1.2 The TSF shall record within each audit record at least the following information:

- a) Date and time of the event, type of event, subject identity (if applicable), and the outcome (success or failure) of the event; and
- b) For each audit event type, based on the auditable event definitions of the functional components included in the PP/ST, **[assignment: types of job for FDP\_ACF.1(a), all login user names that attempted the user identification for FIA\_UID.1, communicating devices with the trusted channel, lockout operation type, locked out user, and locked out user who is to be released]**.

**Table 16 : List of Auditable Events**

| <b>Auditable Event</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <b>Related SFR</b>                  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|
| Download and deletion of audit logs                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | FAU_STG.1<br>FAU_SAR.1<br>FAU_SAR.2 |
| <ul style="list-style-type: none"> <li>- Start and end of creating document data</li> <li>- Start and end of printing document data</li> <li>- Start and end of downloading document data</li> <li>- Start and end of sending document data by fax transmission</li> <li>- Start and end of sending document data by e-mail transmission of attachments</li> <li>- Start and end of sending document data by folder transmission</li> <li>- Start and end of deletion of document data</li> <li>- Deletion of user job data</li> </ul> <p>Those described above, "creating, printing, and downloading document data, sending document data by fax transmission, e-mail transmission of attachments, and folder transmission, deletion of document data, and deletion of user job data", correspond to the job types.</p> | FDP_ACF.1(a)                        |
| Starting and releasing lockout                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | FIA_AFL.1                           |
| Success and failure of login operations                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | FIA_UAU.1                           |
| Success and failure of login operations. Also includes the user identification that is required by the PP as the additional information.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | FIA_UID.1                           |
| Use of the management functions in Table 32                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | FMT_SMF.1<br>FPT_STM.1              |
| Termination of session by Auto Logout                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | FTA_SSL.3                           |
| Failure of the trusted channel functions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | FTP_ITC.1                           |
| No record because there is no function for modifications to the group of users                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | FMT_SMR.1                           |

**FAU\_GEN.2 User identity association**

Hierarchical to: No other components.

Dependencies: FAU\_GEN.1 Audit data generation  
FIA\_UID.1 Timing of identification

FAU\_GEN.2.1 For audit events resulting from actions of identified users, the TSF shall be able to associate each auditable event with the identity of the user that caused the event.

**FAU\_STG.1 Protected audit trail storage**

Hierarchical to: No other components.

Dependencies: FAU\_GEN.1 Audit data generation

FAU\_STG.1.1 The TSF shall protect the stored audit records in the audit trail from unauthorised deletion.



FAU\_STG.1.2 The TSF shall be able to [selection: prevent] unauthorised modifications to the stored audit records in the audit trail.

#### **FAU\_STG.4 Prevention of audit data loss**

Hierarchical to: FAU\_STG.3 Action in case of possible audit data loss

Dependencies: FAU\_STG.1 Protected audit trail storage

FAU\_STG.4.1 The TSF shall [selection: overwrite the oldest stored audit records] and [assignment: no other actions to be taken in case of audit storage failure] if the audit trail is full.

#### **FAU\_SAR.1 Audit review**

Hierarchical to: No other components.

Dependencies: FAU\_GEN.1 Audit data generation

FAU\_SAR.1.1 The TSF shall provide [assignment: the MFP administrators] with the capability to read [assignment: all of log items] from the audit records.

FAU\_SAR.1.2 The TSF shall provide the audit records in a manner suitable for the user to interpret the information.

#### **FAU\_SAR.2 Restricted audit review**

Hierarchical to: No other components.

Dependencies: FAU\_SAR.1 Audit review

FAU\_SAR.2.1 The TSF shall prohibit all users read access to the audit records, except those users that have been granted explicit read-access.

### **6.1.2 Class FDP: User data protection**

#### **FDP\_ACC.1(a) Subset access control**

Hierarchical to: No other components.

Dependencies: FDP\_ACF.1 Security attribute based access control

FDP\_ACC.1.1(a) The TSF shall enforce the [assignment: user data access control SFP] on [assignment: list of subjects, objects, and operations among subjects and objects in Table 17].

**Table 17 : List of Subjects, Objects, and Operations among Subjects and Objects (a)**

| <b>Subjects</b>                                                        | <b>Object</b>          | <b>Operations</b> |
|------------------------------------------------------------------------|------------------------|-------------------|
| Normal user process<br>MFP administrator process<br>Supervisor process | Document data (D.DOC)  | Read<br>Delete    |
|                                                                        | User job data (D.FUNC) | Modify<br>Delete  |

#### **FDP\_ACC.1(b) Subset access control**

Hierarchical to: No other components.

Dependencies: FDP\_ACF.1 Security attribute based access control

FDP\_ACC.1.1(b) The TSF shall enforce the [assignment: TOE function access control SFP] on [assignment: list of subjects, objects, and operations among subjects and objects in Table 18].

**Table 18 : List of Subjects, Objects, and Operations among Subjects and Objects (b)**

|           |                                                                              |
|-----------|------------------------------------------------------------------------------|
| Subject   | - Normal user process<br>- MFP administrator process<br>- Supervisor process |
| Object    | - MFP application                                                            |
| Operation | - Execute                                                                    |

**FDP\_ACF.1(a) Security attribute based access control**

Hierarchical to: No other components.

Dependencies: FDP\_ACC.1 Subset access control  
FMT\_MSA.3 Static attribute initialisation

FDP\_ACF.1.1(a) The TSF shall enforce the [assignment: user data access control SFP] to objects based on the followings: [assignment: subjects or objects, and their corresponding security attributes shown in Table 19].

**Table 19 : Subjects, Objects and Security Attributes (a)**

| Category | Subject or Object         | Security Attribute                                                                                                                               |
|----------|---------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| Subject  | Normal user process       | - Login user name<br>- User role                                                                                                                 |
| Subject  | MFP administrator process | - Login user name<br>- User role                                                                                                                 |
| Subject  | Supervisor process        | - Login user name<br>- User role                                                                                                                 |
| Object   | Document data (D.DOC)     | - Document data attribute<br>- Document data owner information<br>- List for users who have been granted access permission for the document data |
| Object   | User job data (D.FUNC)    | - Document data attribute<br>- User job data owner information                                                                                   |

FDP\_ACF.1.2(a) The TSF shall enforce the following rules to determine if an operation among controlled subjects and controlled objects is allowed: [assignment: rules to control operations among objects and subjects shown in Table 20].

**Table 20 : Rules to Control Operations on Document Data and User Job Data (a)**

| Object                 | Document Data Attribute                           | Operation      | Subject             | Rule to Control Operations                                                                                                                                             |
|------------------------|---------------------------------------------------|----------------|---------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Document data (D.DOC)  | +PRT<br>+SCN<br>+FAXOUT<br>+CPY                   | Delete         | Normal user process | Denied, except for his/her own documents.                                                                                                                              |
| Document data (D.DOC)  | +PRT                                              | Read           | Normal user process | Denied, except for his/her own documents.                                                                                                                              |
| Document data (D.DOC)  | +SCN<br>+FAXOUT<br>+CPY                           | Read           | Normal user process | Denied, except for his/her own documents. (*1)                                                                                                                         |
| Document data (D.DOC)  | +FAXIN                                            | Delete<br>Read | Normal user process | Not allowed. (*1)                                                                                                                                                      |
| Document data (D.DOC)  | +DSR                                              | Delete         | Normal user process | Denied, except for his/her own documents.                                                                                                                              |
| Document data (D.DOC)  | +DSR                                              | Read           | Normal user process | Denied, except for his/her own documents.<br>If the document data owner allows another user to read the document data, the authorized user can read the document data. |
| User job data (D.FUNC) | +PRT<br>+SCN<br>+FAXOUT<br>+CPY<br>+DSR           | Delete         | Normal user process | Denied, except for his/her own user job data.                                                                                                                          |
| User job data (D.FUNC) | +FAXIN                                            | Delete         | Normal user process | Not allowed. (*1)                                                                                                                                                      |
| User job data (D.FUNC) | +PRT<br>+SCN<br>+FAXOUT<br>+FAXIN<br>+CPY<br>+DSR | Modify         | Normal user process | Not allowed. (*1)                                                                                                                                                      |

(\*1) No interface is provided.

FDP\_ACF.1.3(a) The TSF shall explicitly authorise access of subjects to objects based on the following additional rules: [assignment: rules to authorise operations among objects and subjects shown in Table 21].

**Table 21 : Rules to Authorise Operations on Document Data and User Job Data (a)**

| Object                 | Document Data Attribute                 | Operation      | Subject                   | Rule to Authorise Operations |
|------------------------|-----------------------------------------|----------------|---------------------------|------------------------------|
| Document data (D.DOC)  | +PRT<br>+SCN<br>+FAXOUT<br>+CPY         | Delete         | MFP administrator process | Allowed.                     |
| Document data (D.DOC)  | +DSR                                    | Delete<br>Read | MFP administrator process | Allowed.                     |
| Document data (D.DOC)  | +FAXIN                                  | Read           | MFP administrator process | Allowed.                     |
| User job data (D.FUNC) | +PRT<br>+SCN<br>+FAXOUT<br>+CPY<br>+DSR | Delete         | MFP administrator process | Allowed.                     |

FDP\_ACF.1.4(a) The TSF shall explicitly deny access of subjects to objects based on the following additional rules: [assignment: rules to deny operations among objects and subjects shown in Table 22].

**Table 22 : Rules to Deny Operations on Document Data and User Job Data (a)**

| Object                 | Document Data Attribute                           | Operation      | Subject                   | Rule to Deny Operations |
|------------------------|---------------------------------------------------|----------------|---------------------------|-------------------------|
| Document data (D.DOC)  | +FAXIN                                            | Delete         | MFP administrator process | Not allowed. (*1)       |
| Document data (D.DOC)  | +PRT<br>+SCN<br>+FAXOUT<br>+CPY                   | Read           | MFP administrator process | Not allowed. (*1)       |
| Document data (D.DOC)  | +PRT<br>+SCN<br>+FAXOUT<br>+FAXIN<br>+CPY<br>+DSR | Delete<br>Read | Supervisor process        | Not allowed. (*1)       |
| User job data (D.FUNC) | +FAXIN                                            | Delete         | MFP administrator process | Not allowed. (*1)       |

| Object                 | Document Data Attribute                           | Operation        | Subject                   | Rule to Deny Operations |
|------------------------|---------------------------------------------------|------------------|---------------------------|-------------------------|
| User job data (D.FUNC) | +PRT<br>+SCN<br>+FAXOUT<br>+FAXIN<br>+CPY<br>+DSR | Modify           | MFP administrator process | Not allowed. (*1)       |
| User job data (D.FUNC) | +PRT<br>+SCN<br>+FAXOUT<br>+FAXIN<br>+CPY<br>+DSR | Delete<br>Modify | Supervisor process        | Not allowed. (*1)       |

(\*1) No interface is provided.

#### **FDP\_ACF.1(b) Security attribute based access control**

Hierarchical to: No other components.

Dependencies: FDP\_ACC.1 Subset access control  
FMT\_MSA.3 Static attribute initialisation

FDP\_ACF.1.1(b) The TSF shall enforce the [assignment: **TOE function access control SFP**] to objects based on the following: [assignment: **subjects or objects, and their corresponding security attributes shown in Table 23**].

**Table 23 : Subjects, Objects and Security Attributes (b)**

| Category | Subject or Object         | Security Attribute                                      |
|----------|---------------------------|---------------------------------------------------------|
| Subject  | Normal user process       | Login user name<br>Available function list<br>User role |
| Subject  | MFP administrator process | Login user name<br>User role                            |
| Subject  | Supervisor process        | Login user name<br>User role                            |
| Object   | MFP application           | Function type                                           |

FDP\_ACF.1.2(b) The TSF shall enforce the following rules to determine if an operation among controlled subjects and controlled objects is allowed: [assignment: **rules to control operations among objects and subjects shown in Table 24**].

**Table 24 : Rule to Control Operations on MFP Applications (b)**

| Object                                                     | Operation | Subject             | Rule to Control Operations                                                                                                                 |
|------------------------------------------------------------|-----------|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------|
| MFP applications<br>(F.CPY, F.PRT, F.SCN,<br>F.FAX, F.DSR) | Execute   | Normal user process | Allows the execution of MFP applications whose function type matches those allowed in the available function list for normal user process. |

FDP\_ACF.1.3(b) The TSF shall explicitly authorise access of subjects to objects based on the following additional rules: **[assignment: authorise the execution of the MFP application if the user role of the MFP administrator process is MFP administrator]**.

FDP\_ACF.1.4(b) The TSF shall explicitly deny access of subjects to objects based on the following additional rules: **[assignment: deny the execution of the MFP application if the user role of the supervisor process is supervisor]**.

#### **FDP\_RIP.1 Subset residual information protection**

Hierarchical to: No other components.

Dependencies: No dependencies.

FDP\_RIP.1.1 The TSF shall ensure that any previous information content of a resource is made unavailable upon the **[selection: deallocation of the resource from]** the following objects: **[assignment: document data]**.

### **6.1.3 Class FIA: Identification and authentication**

#### **FIA\_AFL.1 Authentication failure handling**

Hierarchical to: No other components.

Dependencies: FIA\_UAU.1 Timing of authentication

FIA\_AFL.1.1 The TSF shall detect when **[selection: an administrator configurable positive integer within [assignment: 1 to 5]]** unsuccessful authentication attempts occur related to **[assignment: the authentication events shown in Table 25]**.

**Table 25 : List of Authentication Events**

| Authentication Event                                                                                       |
|------------------------------------------------------------------------------------------------------------|
| User authentication using the Operation Panel                                                              |
| User authentication using the WIM                                                                          |
| User authentication when document data is received from the printer driver and temporarily saved or stored |
| User authentication when document data is received from the fax driver and stored                          |

FIA\_AFL.1.2 When the defined number of unsuccessful authentication attempts has been [selection: met, surpassed], the TSF shall [assignment: perform actions shown in Table 26].

**Table 26 : List of Actions for Authentication Failure**

| Unsuccessfully Authenticated User | Action for Authentication Failure                                                                                                                                                                    |
|-----------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Normal user                       | The normal user is locked out during the lockout time set by the MFP administrator, or until the MFP administrator performs the release operation.                                                   |
| Supervisor                        | The supervisor is locked out during the lockout time set by the MFP administrator, until the MFP administrator performs the release operation, or until a given time elapses after the TOE restarts. |
| MFP administrator                 | The MFP administrator is locked out during the lockout time set by the MFP administrator, until the supervisor performs the release operation, or until a given time elapses after the TOE restarts. |

**FIA\_ATD.1 User attribute definition**

Hierarchical to: No other components.

Dependencies: No dependencies.

FIA\_ATD.1.1 The TSF shall maintain the following list of security attributes belonging to individual users: [assignment: login user name, available function list, and user role]

**FIA\_SOS.1 Verification of secrets**

Hierarchical to: No other components.

Dependencies: No dependencies.

FIA\_SOS.1.1 The TSF shall provide a mechanism to verify that secrets meet [assignment: the following quality metrics].

- (1) To use multiple character types of upper-case letters, lower-case letters, digits, and symbols. (The required number of types is set by the MFP administrator as the password complexity setting.)
- (2) Passwords must be single-byte alphanumeric letters and symbols with minimum character number of password (8 to 32 characters set by the MFP administrator) or more, and
  - Must be 128 characters or less for normal users
  - Must be 32 characters or less for MFP administrators and a supervisor

**FIA\_UAU.1 Timing of authentication**

Hierarchical to: No other components.

Dependencies: FIA\_UID.1 Timing of identification

FIA\_UAU.1.1 The TSF shall allow [assignment: the viewing of the list of user job data, the viewing of WIM Help, the viewing of system status, the viewing of counter, the viewing of information of inquiries, and execution of fax reception] on behalf of the user to be performed before the user is authenticated.

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FIA\_UAU.1.2 The TSF shall require each user to be successfully authenticated before allowing any other TSF-mediated actions on behalf of that user.

**FIA\_UAU.7 Protected authentication feedback**

Hierarchical to: No other components.

Dependencies: FIA\_UAU.1 Timing of authentication

FIA\_UAU.7.1 The TSF shall provide only [assignment: **dummy letters displayed as authentication feedback**] to the user while the authentication is in progress.

**FIA\_UID.1 Timing of identification**

Hierarchical to: No other components.

Dependencies: No dependencies.

FIA\_UID.1.1 The TSF shall allow [assignment: **the viewing of the list of user job data, the viewing of WIM Help, the viewing of system status, the viewing of counter, the viewing of information of inquiries, and execution of fax reception**] on behalf of the user to be performed before the user is identified.

FIA\_UID.1.2 The TSF shall require each user to be successfully identified before allowing other TSF-mediated actions on behalf of that user.

**FIA\_USB.1 User-subject binding**

Hierarchical to: No other components.

Dependencies: FIA\_ATD.1 User attribute definition

FIA\_USB.1.1 The TSF shall associate the following user security attributes with subjects acting on the behalf of that user: [assignment: **login user name, available function list, and user role**]

FIA\_USB.1.2 The TSF shall enforce the following rules on the initial association of user security attributes with subjects acting on the behalf of users: [assignment: **no rules for the initial association of attributes**]

FIA\_USB.1.3 The TSF shall enforce the following rules governing changes to the user security attributes associated with subjects acting on the behalf of users: [assignment: **none**]

#### 6.1.4 Class FMT: Security management

**FMT\_MOF.1 Management of security functions behaviour**

Hierarchical to: No other components.

Dependencies: FMT\_SMR.1 Security roles  
FMT\_SMF.1 Specification of Management Functions

FMT\_MOF.1.1 The TSF shall restrict the ability to [selection: **disable, enable**] the function [assignment: **syslog transfer function**] to [assignment: **the MFP administrator**].

**FMT\_MSA.1(a) Management of security attributes**

Hierarchical to: No other components.



Dependencies: [FDP\_ACC.1 Subset access control, or  
 FDP\_IFC.1 Subset information flow control]  
 FMT\_SMR.1 Security roles  
 FMT\_SMF.1 Specification of Management Functions

FMT\_MSA.1.1(a) The TSF shall enforce the [assignment: user data access control SFP] to restrict the ability to [selection: delete, change\_default, [assignment: newly create, modify]] the security attributes [assignment: security attributes in Table 27] to [assignment: the user roles with operation permission in Table 27].

**Table 27 : User Roles for Security Attributes (a)**

| Security Attribute                                                                                    | Operation                        | User Role with Operation Permission                    |
|-------------------------------------------------------------------------------------------------------|----------------------------------|--------------------------------------------------------|
| Login user name<br>[When associated with a normal user]                                               | Newly create<br>Modify<br>Delete | MFP administrator                                      |
| Login user name<br>[When associated with an MFP administrator]                                        | Newly create                     | MFP administrator                                      |
|                                                                                                       | Modify                           | MFP administrator in question                          |
| Login user name<br>[When associated with a supervisor]                                                | Modify                           | Supervisor                                             |
| User role                                                                                             | Modify                           | No role with the operation permission                  |
| Document data owner information<br>[+PRT, +SCN, +FAXOUT,<br>+FAXIN, +CPY]                             | Modify                           | No role with the operation permission                  |
| Document data owner information<br>[+DSR: Other than the document data received via a telephone line] | Modify                           | No role with the operation permission                  |
| Document data owner information<br>[+DSR: Document data received via a telephone line]                | Modify                           | MFP administrator                                      |
| List for users who have been granted access permission for the document data                          | Modify                           | MFP administrator<br>Document data owner (Normal user) |
|                                                                                                       | Change_default                   | MFP administrator                                      |
| User job data owner information                                                                       | Modify                           | No role with the operation permission                  |

**FMT\_MSA.1(b) Management of security attributes**

Hierarchical to: No other components.

Dependencies: [FDP\_ACC.1 Subset access control, or  
 FDP\_IFC.1 Subset information flow control]  
 FMT\_SMR.1 Security roles  
 FMT\_SMF.1 Specification of Management Functions

FMT\_MSA.1.1(b)The TSF shall enforce the TOE function access control SFP [assignment: TOE function access control SFP] to restrict the ability to [selection: delete, [assignment: newly create, modify]] the security attributes [assignment: security attributes in Table 28] to [assignment: the user roles with operation permission in Table 28].

**Table 28 : User Roles for Security Attributes (b)**

| Security Attribute                                             | Operation                        | User Role with Operation Permission   |
|----------------------------------------------------------------|----------------------------------|---------------------------------------|
| Login user name<br>[When associated with a normal user]        | Newly create<br>Modify<br>Delete | MFP administrator                     |
| Login user name<br>[When associated with an MFP administrator] | Newly create                     | MFP administrator                     |
|                                                                | Modify                           | MFP administrator in question         |
| Login user name<br>[When associated with a supervisor]         | Modify                           | Supervisor                            |
| User role                                                      | Modify                           | No role with the operation permission |
| Available function list                                        | Newly create<br>Modify<br>Delete | MFP administrator                     |
| Function type                                                  | Modify                           | No role with the operation permission |

**FMT\_MSA.3(a)Static attribute initialisation**

Hierarchical to: No other components.

Dependencies: FMT\_MSA.1 Management of security attributes  
FMT\_SMR.1 Security roles

FMT\_MSA.3.1(a)The TSF shall enforce the [assignment: user data access control SFP] to provide [selection: restrictive] default values for security attributes that are used to enforce the SFP.

FMT\_MSA.3.2(a)The TSF shall allow the [assignment: authorised identified roles shown in Table 29] to specify alternative initial values to overwrite the default values when an object or information is created.

**Table 29 : Authorised Identified Roles Allowed to Overwrite Default Values**

| Object                   | Security Attribute              | Authorised Identified Role     |
|--------------------------|---------------------------------|--------------------------------|
| Document data<br>(D.DOC) | Document data owner information | No authorised identified roles |

| Object                    | Security Attribute                                                           | Authorised Identified Role                                                                                                                                                                                                |
|---------------------------|------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Document data<br>(D.DOC)  | List for users who have been granted access permission for the document data | Normal user who creates the document data<br>(Allowed only when storing document data from the Operation Panel. There is no interface for overwriting default values when storing document data from the printer driver.) |
| User job data<br>(D.FUNC) | User job data owner information                                              | No authorised identified roles                                                                                                                                                                                            |

#### FMT\_MSA.3(b) Static attribute initialisation

Hierarchical to: No other components.

Dependencies: FMT\_MSA.1 Management of security attributes  
FMT\_SMR.1 Security roles

FMT\_MSA.3.1(b)The TSF shall enforce the [assignment: TOE function access control SFP] to provide [selection: restrictive] default values for security attributes that are used to enforce the SFP.

FMT\_MSA.3.2(b)The TSF shall allow the [assignment: no authorised identified roles] to specify alternative initial values to overwrite the default values when an object or information is created.

#### FMT\_MTD.1(a) Management of TSF data

Hierarchical to: No other components.

Dependencies: FMT\_SMR.1 Security roles  
FMT\_SMF.1 Specification of Management Functions

FMT\_MTD.1.1(a)The TSF shall restrict the ability to [selection: delete, [assignment: newly create, modify]] the [assignment: list of TSF data in Table 30] to [assignment: the user roles in Table 30].

**Table 30 : List of TSF Data**

| Category                       | TSF Data                             | Operation                        | User Role         |
|--------------------------------|--------------------------------------|----------------------------------|-------------------|
| TSF protected data<br>(D.PROT) | Lockout settings                     | Modify                           | MFP administrator |
|                                | Date/time settings                   | Modify                           | MFP administrator |
|                                | Password quality settings            | Modify                           | MFP administrator |
|                                | Auto Logout settings                 | Modify                           | MFP administrator |
|                                | S/MIME user information              | Newly create<br>Modify<br>Delete | MFP administrator |
|                                | Destination folder                   | Newly create<br>Modify<br>Delete | MFP administrator |
|                                | Audit log settings                   | Modify                           | MFP administrator |
|                                | Cryptographic communication settings | Modify                           | MFP administrator |

| Category                       | TSF Data                                                   | Operation    | User Role                                    |
|--------------------------------|------------------------------------------------------------|--------------|----------------------------------------------|
| TSF confidential data (D.CONF) | Login password [When associated with a normal user]        | Newly create | MFP administrator                            |
|                                |                                                            | Modify       | Normal user in question<br>MFP administrator |
|                                | Login password [When associated with an MFP administrator] | Newly create | MFP administrator                            |
|                                |                                                            | Modify       | MFP administrator in question<br>Supervisor  |
|                                | Login password [When associated with a supervisor]         | Modify       | Supervisor                                   |

#### FMT\_MTD.1(b) Management of TSF data

Hierarchical to: No other components.

Dependencies: FMT\_SMR.1 Security roles  
FMT\_SMF.1 Specification of Management Functions

FMT\_MTD.1.1(b) The TSF shall restrict the ability to [selection: query, [assignment: modify]] the [assignment: list of TSF data in Table 31] to [assignment: the user roles in Table 31].

**Table 31 : List of TSF Data**

| Category                       | TSF Data                             | Operation | User Role                             |
|--------------------------------|--------------------------------------|-----------|---------------------------------------|
| TSF protected data (D.PROT)    | Signature for integrity verification | Modify    | No role with the operation permission |
| TSF confidential data (D.CONF) | Login password                       | Query     | No role with the operation permission |

#### FMT\_SMF.1 Specification of Management Functions

Hierarchical to: No other components.

Dependencies: No dependencies.

FMT\_SMF.1.1 The TSF shall be capable of performing the following management functions: [assignment: management functions shown in Table 32]

**Table 32 : List of Specification of Management Functions**

| Management Function                             |
|-------------------------------------------------|
| Disable and enable the syslog transfer function |
| Modify lockout settings                         |
| Modify date/time settings                       |

| Management Function                                                                                                         |
|-----------------------------------------------------------------------------------------------------------------------------|
| Modify password quality settings                                                                                            |
| Modify Auto Logout settings                                                                                                 |
| Newly create, modify, and delete S/MIME user information                                                                    |
| Newly create, modify, and delete destination folders                                                                        |
| Modify audit log settings                                                                                                   |
| Modify cryptographic communication settings                                                                                 |
| Newly create and modify login passwords                                                                                     |
| Newly create, modify, and delete login user names                                                                           |
| Modify document data (+DSR: Document data received via a telephone line) owner information                                  |
| Modify the list for users who have been granted access permission for the document data, and change the default value of it |
| Newly create, modify, and delete the available function list                                                                |

#### **FMT\_SMR.1 Security roles**

Hierarchical to: No other components.

Dependencies: FIA\_UID.1 Timing of identification

FMT\_SMR.1.1 The TSF shall maintain the roles [**assignment: normal user, supervisor, and MFP administrator**].

FMT\_SMR.1.2 The TSF shall be able to associate users with roles.

#### **6.1.5 Class FPT: Protection of the TSF**

##### **FPT\_STM.1 Reliable time stamps**

Hierarchical to: No other components.

Dependencies: No dependencies.

FPT\_STM.1.1 The TSF shall be able to provide reliable time stamps.

##### **FPT\_TST.1 TSF testing**

Hierarchical to: No other components.

Dependencies: No dependencies.

FPT\_TST.1.1 The TSF shall run a suite of self tests [**selection: during initial start-up**] to demonstrate the correct operation of [**selection: [assignment: the MFP Control Software, FCU Control Software, and Operation Panel Control Software]**].

FPT\_TST.1.2 The TSF shall provide authorised users with the capability to verify the integrity of [**selection: [assignment: signature for integrity verification]**].

FPT\_TST.1.3 The TSF shall provide authorised users with the capability to verify the integrity of [**selection: [assignment: the stored TSF executable code]**].

**FPT\_FDI\_EXP.1 Restricted forwarding of data to external interfaces**

Hierarchical to: No other components.

Dependencies: FMT\_SMF.1 Specification of Management Functions  
FMT\_SMR.1 Security roles

FPT\_FDI\_EXP.1.1 The TSF shall provide the capability to restrict data received on **any external Interface** from being forwarded without further processing by the TSF to **any Sharedmedium Interface**.

**6.1.6 Class FTA: TOE access****FTA\_SSL.3 TSF-initiated termination**

Hierarchical to: No other components.

Dependencies: No dependencies.

FTA\_SSL.3.1 The TSF shall terminate the interactive session after **[assignment: the time specified by the MFP administrator]**.

**6.1.7 Class FTP: Trusted path/channels****FTP\_ITC.1 Inter-TSF trusted channel**

Hierarchical to: No other components.

Dependencies: No dependencies.

FTP\_ITC.1.1 The TSF shall provide a communication channel between itself and another trusted IT product that is logically distinct from other communication channels and provides assured identification of its end points and protection of the channel data from modification or disclosure.

FTP\_ITC.1.2 The TSF shall permit **[selection: the TSF, another trusted IT product]** to initiate communication via the trusted channel.

FTP\_ITC.1.3 The TSF shall initiate communication via the trusted channel for **[assignment: communication via the LAN of document data, user job data, TSF protected data, and TSF confidential data]**.

**6.2 Security Assurance Requirements**

The evaluation assurance level of this TOE is EAL2+ALC\_FLR.2. Table 33 lists the assurance components of the TOE. ALC\_FLR.2 was added to the set of components defined in evaluation assurance level 2 (EAL2).

**Table 33 : TOE Security Assurance Requirements (EAL2+ALC\_FLR.2)**

| Assurance Class     | Assurance Component                                   |
|---------------------|-------------------------------------------------------|
| ADV:<br>Development | ADV_ARC.1 Security architecture description           |
|                     | ADV_FSP.2 Security-enforcing functional specification |
|                     | ADV_TDS.1 Basic design                                |

| Assurance Class                    | Assurance Component |                                |
|------------------------------------|---------------------|--------------------------------|
| AGD:<br>Guidance documents         | AGD_OPE.1           | Operational user guidance      |
|                                    | AGD_PRE.1           | Preparative procedures         |
| ALC:<br>Life-cycle support         | ALC_CMC.2           | Use of a CM system             |
|                                    | ALC_CMS.2           | Parts of the TOE CM coverage   |
|                                    | ALC_DEL.1           | Delivery procedures            |
|                                    | ALC_FLR.2           | Flaw reporting procedures      |
| ASE:<br>Security Target evaluation | ASE_CCL.1           | Conformance claims             |
|                                    | ASE_ECD.1           | Extended components definition |
|                                    | ASE_INT.1           | ST introduction                |
|                                    | ASE_OBJ.2           | Security objectives            |
|                                    | ASE_REQ.2           | Derived security requirements  |
|                                    | ASE_SPD.1           | Security problem definition    |
|                                    | ASE_TSS.1           | TOE summary specification      |
| ATE:<br>Tests                      | ATE_COV.1           | Evidence of coverage           |
|                                    | ATE_FUN.1           | Functional testing             |
|                                    | ATE_IND.2           | Independent testing - sample   |
| AVA:<br>Vulnerability assessment   | AVA_VAN.2           | Vulnerability analysis         |

### 6.3 Security Requirements Rationale

This section describes the rationale for security requirements.

If all security functional requirements are satisfied as below, the security objectives for TOE defined in "4 Security Objectives" are fulfilled.

#### 6.3.1 Tracing

Table 34 shows the relationship between the security functional requirements and security objectives for TOE. Items in **bold** provide the primal (**P**) fulfillment of the objectives, and items in standard typeface support (**S**) its fulfillment. Table 34 shows that each TOE security functional requirement fulfils at least one TOE security objective.

Table 34 : Correspondence of Security Objectives and Functional Requirements

|               | O.DOC.NO_DIS | O.DOC.NO_ALT | O.FUNC.NO_ALT | O.PROT.NO_ALT | O.CONF.NO_DIS | O.CONF.NO_ALT | O.USER.AUTHORIZED | O.INTERFACE.MANAGED | O.SOFTWARE.VERIFIED | O.AUDIT.LOGGED |
|---------------|--------------|--------------|---------------|---------------|---------------|---------------|-------------------|---------------------|---------------------|----------------|
| FAU_GEN.1     |              |              |               |               |               |               |                   |                     |                     | P              |
| FAU_GEN.2     |              |              |               |               |               |               |                   |                     |                     | P              |
| FAU_STG.1     |              |              |               |               |               | P             |                   |                     |                     | P              |
| FAU_STG.4     |              |              |               |               |               |               |                   |                     |                     | S              |
| FAU_SAR.1     |              |              |               |               | P             |               |                   |                     |                     | P              |
| FAU_SAR.2     |              |              |               |               | P             |               |                   |                     |                     | P              |
| FDP_ACC.1(a)  | P            | P            | P             |               |               |               |                   |                     |                     |                |
| FDP_ACC.1(b)  |              |              |               |               |               |               | P                 |                     |                     |                |
| FDP_ACF.1(a)  | P            | P            | P             |               |               |               |                   |                     |                     |                |
| FDP_ACF.1(b)  |              |              |               |               |               |               | P                 |                     |                     |                |
| FDP_RIP.1     | P            |              |               |               |               |               |                   |                     |                     |                |
| FIA_AFL.1     |              |              |               |               |               |               | S                 |                     |                     |                |
| FIA_ATD.1     |              |              |               |               |               |               | S                 |                     |                     |                |
| FIA_SOS.1     |              |              |               |               |               |               | S                 |                     |                     |                |
| FIA_UAU.1     |              |              |               |               |               |               | P                 | P                   |                     |                |
| FIA_UAU.7     |              |              |               |               |               |               | S                 |                     |                     |                |
| FIA_UID.1     | S            | S            | S             | S             | S             | S             | P                 | P                   |                     | S              |
| FIA_USB.1     |              |              |               |               |               |               | P                 |                     |                     |                |
| FPT_FDI_EXP.1 |              |              |               |               |               |               |                   | P                   |                     |                |
| FMT_MOF.1     |              |              |               | P             |               |               |                   |                     |                     |                |
| FMT_MSA.1(a)  | S            | S            | S             | P             |               |               |                   |                     |                     |                |
| FMT_MSA.1(b)  |              |              |               | P             |               |               | S                 |                     |                     |                |
| FMT_MSA.3(a)  | S            | S            | S             |               |               |               |                   |                     |                     |                |
| FMT_MSA.3(b)  |              |              |               |               |               |               | S                 |                     |                     |                |
| FMT_MTD.1(a)  |              |              |               | P             |               | P             |                   |                     |                     |                |
| FMT_MTD.1(b)  |              |              |               | P             | P             |               |                   |                     |                     |                |
| FMT_SMF.1     | S            | S            | S             | S             | S             | S             |                   |                     |                     |                |



|           | O.DOC.NO_DIS | O.DOC.NO_ALT | O.FUNC.NO_ALT | O.PROT.NO_ALT | O.CONF.NO_DIS | O.CONF.NO_ALT | O.USER.AUTHORIZED | O.INTERFACE.MANAGED | O.SOFTWARE.VERIFIED | O.AUDIT.LOGGED |
|-----------|--------------|--------------|---------------|---------------|---------------|---------------|-------------------|---------------------|---------------------|----------------|
| FMT_SMR.1 | S            | S            | S             | S             | S             | S             |                   |                     |                     |                |
| FPT_STM.1 |              |              |               |               |               |               |                   |                     |                     | S              |
| FPT_TST.1 |              |              |               |               |               |               |                   |                     | P                   |                |
| FTA_SSL.3 |              |              |               |               |               |               | P                 | P                   |                     |                |
| FTP_ITC.1 | P            | P            | P             | P             | P             | P             |                   |                     |                     |                |

### 6.3.2 Justification of Traceability

This section describes below how the TOE security objectives are fulfilled by the TOE security functional requirements corresponding to the TOE security objectives. SFR items in **bold** provide the primal (P) fulfillment of the objectives, and SFR items in standard typeface support (S) its fulfillment.

#### O.DOC.NO\_DIS Protection of document disclosure

O.DOC.NO\_DIS is a security objective by which the TOE protects document data from being disclosed by unauthorised persons. To fulfil this security objective, it is required to implement the following SFRs.

- (1) **FDP\_ACC.1(a)**  
**FDP\_ACC.1(a) defines the access control policy for document data.**
- (2) **FDP\_ACF.1(a)**  
**FDP\_ACF.1(a) provides the access control functions in accordance with the access control policy for document data.**
- (3) **FDP\_RIP.1**  
**FDP\_RIP.1 prevents deleted documents, temporary documents and their fragments from being read.**
- (4) **FTP\_ITC.1**  
**FTP\_ITC.1 protects the document data sent and received by the TOE via the LAN.**
- (5) FMT\_MSA.1(a)  
FMT\_MSA.1(a) restricts the management of security attributes to specific users.
- (6) FMT\_MSA.3(a)  
FMT\_MSA.3(a) manages the default security attributes when the document data is generated.
- (7) FIA\_UID.1  
FIA\_UID.1 identifies persons who attempt to use the TOE.

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- (8) FMT\_SMR.1  
FMT\_SMR.1 maintains the authorised user roles.
  - (9) FMT\_SMF.1  
FMT\_SMF.1 performs the required management functions for the security functions.
- O.DOC.NO\_DIS can be fulfilled by satisfying these security functional requirements.

#### **O.DOC.NO\_ALT Protection of document alteration**

O.DOC.NO\_ALT is a security objective by which the TOE protects document data from being altered by unauthorised persons. To fulfil this security objective, it is required to implement the following SFRs.

- (1) **FDP\_ACC.1(a)**  
**FDP\_ACC.1(a) defines the access control policy for document data.**
  - (2) **FDP\_ACF.1(a)**  
**FDP\_ACF.1(a) provides the access control functions in accordance with the access control policy for document data.**
  - (3) **FTP\_ITC.1**  
**FTP\_ITC.1 protects the document data sent and received by the TOE via the LAN.**
  - (4) FMT\_MSA.1(a)  
FMT\_MSA.1(a) restricts the management of security attributes to specific users.
  - (5) FMT\_MSA.3(a)  
FMT\_MSA.3(a) manages the default security attributes when the document data is generated.
  - (6) FIA\_UID.1  
FIA\_UID.1 identifies persons who attempt to use the TOE.
  - (7) FMT\_SMR.1  
FMT\_SMR.1 maintains the authorised user roles.
  - (8) FMT\_SMF.1  
FMT\_SMF.1 performs the required management functions for the security functions.
- O.DOC.NO\_ALT can be fulfilled by satisfying these security functional requirements.

#### **O.FUNC.NO\_ALT Protection of user job data alteration**

O.FUNC.NO\_ALT is a security objective by which the TOE protects user job data from being altered by unauthorised persons. To fulfil this security objective, it is required to implement the following SFRs.

- (1) **FDP\_ACC.1(a)**  
**FDP\_ACC.1(a) defines the access control policy for user job data.**
- (2) **FDP\_ACF.1(a)**  
**FDP\_ACF.1(a) provides the access control functions in accordance with the access control policy for user job data.**
- (3) **FTP\_ITC.1**  
**FTP\_ITC.1 protects the user job data sent and received by the TOE via the LAN.**
- (4) FMT\_MSA.1(a)

- 
- FMT\_MSA.1(a) restricts the management of security attributes to specific users.
- (5) FMT\_MSA.3(a)  
FMT\_MSA.3(a) manages the default security attributes when the user job is generated.
- (6) FIA\_UID.1  
FIA\_UID.1 identifies persons who attempt to use the TOE.
- (7) FMT\_SMR.1  
FMT\_SMR.1 maintains the authorised user roles.
- (8) FMT\_SMF.1  
FMT\_SMF.1 performs the required management functions for the security functions.
- O.FUNC.NO\_ALT can be fulfilled by satisfying these security functional requirements.

#### **O.PROT.NO\_ALT Protection of TSF protected data alteration**

O.PROT.NO\_ALT is a security objective by which the TOE protects TSF protected data from being altered by unauthorised persons. To fulfil this security objective, it is required to implement the following SFRs.

- (1) **FMT\_MOF.1**  
**FMT\_MOF.1 allows only MFP administrators to manage the behaviour of the security functions.**
- (2) **FMT\_MSA.1(a) and FMT\_MSA.1(b)**  
**FMT\_MSA.1(a) and FMT\_MSA.1(b) restrict the management of security attributes to specific users.**
- (3) **FMT\_MTD.1(a) and FMT\_MTD.1(b)**  
**FMT\_MTD.1(a) and FMT\_MTD.1(b) restrict the operation of TSF protected data to authorised users.**
- (4) FMT\_SMF.1  
FMT\_SMF.1 performs the required management functions for the security functions.
- (5) FMT\_SMR.1  
FMT\_SMR.1 maintains the authorised user roles.
- (6) **FTP\_ITC.1**  
**FTP\_ITC.1 protects the TSF protected data sent and received by the TOE via the LAN.**
- (7) FIA\_UID.1  
FIA\_UID.1 identifies persons who attempt to use the TOE.

O.PROT.NO\_ALT can be fulfilled by satisfying these security functional requirements.

#### **O.CONF.NO\_DIS Protection of TSF confidential data disclosure**

O.CONF.NO\_DIS is a security objective by which the TOE protects TSF confidential data from being disclosed by unauthorised persons. To fulfil this security objective, it is required to implement the following SFRs.

- (1) **FMT\_MTD.1(b)**  
**FMT\_MTD.1(b) restricts the operation of TSF confidential data to authorised users.**
- (2) FMT\_SMF.1  
FMT\_SMF.1 performs the required management functions for the security functions.

- 
- (3) **FMT\_SMR.1**  
FMT\_SMR.1 maintains the authorised user roles.
  - (4) **FTP\_ITC.1**  
**FTP\_ITC.1 protects the TSF confidential data sent and received by the TOE via the LAN.**
  - (5) **FAU\_SAR.1**  
**FAU\_SAR.1 allows the MFP administrator to read audit logs in a format that can be audited.**
  - (6) **FAU\_SAR.2**  
**FAU\_SAR.2 prohibits persons other than the MFP administrator from reading the audit logs.**
  - (7) **FIA\_UID.1**  
FIA\_UID.1 identifies persons who attempt to use the TOE.
- O.CONF.NO\_DIS can be fulfilled by satisfying these security functional requirements.

#### **O.CONF.NO\_ALT Protection of TSF confidential data alteration**

O.CONF.NO\_ALT is a security objective by which the TOE protects TSF confidential data from being altered by unauthorised persons. To fulfil this security objective, it is required to implement the following SFRs.

- (1) **FMT\_MTD.1(a)**  
**FMT\_MTD.1(a) restricts the operation of TSF confidential data to authorised users.**
  - (2) **FMT\_SMF.1**  
FMT\_SMF.1 performs the required management functions for the security functions.
  - (3) **FMT\_SMR.1**  
FMT\_SMR.1 maintains the authorised user roles.
  - (4) **FTP\_ITC.1**  
**FTP\_ITC.1 protects the TSF confidential data sent and received by the TOE via the LAN.**
  - (5) **FAU\_STG.1**  
**FAU\_STG.1 protects audit logs from alteration.**
  - (6) **FIA\_UID.1**  
FIA\_UID.1 identifies persons who attempt to use the TOE.
- O.CONF.NO\_ALT can be fulfilled by satisfying these security functional requirements.

#### **O.USER.AUTHORIZED User identification and authentication**

O.USER.AUTHORIZED is a security objective by which the TOE requires user identification and authentication of users, gives users the access rights according to the security policies, and then ensures that users are allowed to use the TOE. To fulfil this security objective, it is required to implement the following SFRs.

- (1) **FIA\_UID.1 and FIA\_UAU.1**  
**FIA\_UID.1 and FIA\_UAU.1 identify and authenticate persons who attempt to use the TOE.**
- (2) **FIA\_USB.1**  
**FIA\_USB.1 associates the security attributes with the user who is successfully identified and authenticated.**

- 
- (3) **FIA\_ATD.1**  
FIA\_ATD.1 maintains each user's security attributes registered in the TOE before performing identification and authentication.
  - (4) **FDP\_ACC.1(b)**  
**FDP\_ACC.1(b) defines the access control policy that allows users to execute the MFP applications according to the operation permission and user role of MFP applications granted to the successfully identified and authenticated users.**
  - (5) **FDP\_ACF.1(b)**  
**FDP\_ACF.1(b) provides the access control functions in accordance with the access control policy that allows users to execute the MFP applications according to the operation permission and user role of MFP applications granted to the successfully identified and authenticated users.**
  - (6) **FIA\_UAU.7**  
FIA\_UAU.7 displays dummy letters as authentication feedback on the Operation Panel and prevents the login password from disclosure.
  - (7) **FIA\_SOS.1**  
FIA\_SOS.1 accepts only passwords that satisfy the quality metrics specified by the MFP administrator, and makes it difficult to guess the login password.
  - (8) **FIA\_AFL.1**  
FIA\_AFL.1 does not allow the user who have repeatedly failed authentication a certain number of times to access to the TOE for a certain period of time.
  - (9) **FTA\_SSL.3**  
**FTA\_SSL.3 performs Auto Logout when the time specified by the MFP administrator has elapsed since the last operation of the user, terminates the inactive session, and enforces the authorisation.**
  - (10) **FMT\_MSA.1(b)**  
FMT\_MSA.1(b) restricts the management of security attributes to specific users.
  - (11) **FMT\_MSA.3(b)**  
FMT\_MSA.3(b) sets security attributes to restrictive values.
- O.USER.AUTHORIZED can be fulfilled by satisfying these security functional requirements.

#### **O.INTERFACE.MANAGED Management of external interfaces by TOE**

O.INTERFACE.MANAGED is a security objective by which the TOE manages the operation of the external interfaces in accordance with the security policies. To fulfil this security objective, it is required to implement the following SFRs.

- (1) **FIA\_UID.1 and FIA\_UAU.1**  
**FIA\_UID.1 identifies persons who attempt to use the TOE, and FIA\_UAU.1 authenticates the identified users.**
- (2) **FTA\_SSL.3**  
**FTA\_SSL.3 performs Auto Logout when the time specified by the MFP administrator has elapsed since the last operation of the user, terminates the inactive session, and performs management of external interfaces.**

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**(3) FPT\_FDI\_EXP.1**

**FPT\_FDI\_EXP.1 prevents data received from an arbitrary external interface from being forwarded without further processing by the TSF to an arbitrary shared media interface.**

O.INTERFACE.MANAGED can be fulfilled by satisfying these security functional requirements.

**O.SOFTWARE.VERIFIED Software verification**

O.SOFTWARE.VERIFIED is a security objective by which the TOE provides procedures to self-verify the executable code in the TSF. To fulfil this security objective, it is required to implement the following SFRs.

**(1) FPT\_TST.1**

**FPT\_TST.1 verifies the signature for integrity verification and executable code in the TSF, and performs self-tests for the MFP Control Software, FCU Control Software, and Operation Panel Control Software at the start-up.**

O.SOFTWARE.VERIFIED can be fulfilled by satisfying this security functional requirement.

**O.AUDIT.LOGGED Management of audit log records**

O.AUDIT.LOGGED is a security objective by which the TOE records and manages events related to the TOE use and security, and prevents unauthorised disclosure and alteration. To fulfil this security objective, it is required to implement the following SFRs.

**(1) FAU\_GEN.1 and FAU\_GEN.2**

**FAU\_GEN.1 and FAU\_GEN.2 record the events, which should be auditable, with the identification information of the occurrence factor.**

**(2) FAU\_STG.1**

**FAU\_STG.1 protects audit logs from alteration.**

**(3) FAU\_STG.4**

FAU\_STG.4 overwrites the audit log with the oldest timestamp when an auditable event occurs while the audit log file is full.

**(4) FAU\_SAR.1**

**FAU\_SAR.1 allows the MFP administrator to read audit logs in a format that can be audited.**

**(5) FAU\_SAR.2**

**FAU\_SAR.2 prohibits persons other than the MFP administrator from reading the audit logs.**

**(6) FPT\_STM.1**

FPT\_STM.1 provides reliable time stamps.

**(7) FIA\_UID.1**

FIA\_UID.1 identifies persons who attempt to use the TOE.

O.AUDIT.LOGGED can be fulfilled by satisfying these security functional requirements.

**6.3.3 Dependency Analysis**

Table 35 shows the results of dependency analysis in this ST for the TOE security functional requirements.

**Table 35 : Results of Dependency Analysis of TOE Security Functional Requirements**

| <b>TOE Security Functional Requirement</b> | <b>Claimed Dependencies</b> | <b>SFR for the ST</b>        | <b>Sufficiency</b>                                                                                                                              |
|--------------------------------------------|-----------------------------|------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| FAU_GEN.1                                  | FPT_STM.1                   | FPT_STM.1                    | OK                                                                                                                                              |
| FAU_GEN.2                                  | FAU_GEN.1<br>FIA_UID.1      | FAU_GEN.1<br>FIA_UID.1       | OK                                                                                                                                              |
| FAU_STG.1                                  | FAU_GEN.1                   | FAU_GEN.1                    | OK                                                                                                                                              |
| FAU_STG.4                                  | FAU_STG.1                   | FAU_STG.1                    | OK                                                                                                                                              |
| FAU_SAR.1                                  | FAU_GEN.1                   | FAU_GEN.1                    | OK                                                                                                                                              |
| FAU_SAR.2                                  | FAU_SAR.1                   | FAU_SAR.1                    | OK                                                                                                                                              |
| FDP_ACC.1(a)                               | FDP_ACF.1                   | FDP_ACF.1(a)                 | OK                                                                                                                                              |
| FDP_ACC.1(b)                               | FDP_ACF.1                   | FDP_ACF.1(b)                 | OK                                                                                                                                              |
| FDP_ACF.1(a)                               | FDP_ACC.1<br>FMT_MSA.3      | FDP_ACC.1(a)<br>FMT_MSA.3(a) | OK<br>However, since the document data attributes are not used in the implementation, this security attribute is not required for FMT_MSA.3(a). |
| FDP_ACF.1(b)                               | FDP_ACC.1<br>FMT_MSA.3      | FDP_ACC.1(b)<br>FMT_MSA.3(b) | OK                                                                                                                                              |
| FDP_RIP.1                                  | None                        | None                         | OK                                                                                                                                              |
| FIA_AFL.1                                  | FIA_UAU.1                   | FIA_UAU.1                    | OK                                                                                                                                              |
| FIA_ATD.1                                  | None                        | None                         | OK                                                                                                                                              |
| FIA_SOS.1                                  | None                        | None                         | OK                                                                                                                                              |
| FIA_UAU.1                                  | FIA_UID.1                   | FIA_UID.1                    | OK                                                                                                                                              |
| FIA_UAU.7                                  | FIA_UAU.1                   | FIA_UAU.1                    | OK                                                                                                                                              |
| FIA_UID.1                                  | None                        | None                         | OK                                                                                                                                              |
| FIA_USB.1                                  | FIA_ATD.1                   | FIA_ATD.1                    | OK                                                                                                                                              |
| FPT_FDI_EXP.1                              | FMT_SMF.1<br>FMT_SMR.1      | FMT_SMF.1<br>FMT_SMR.1       | OK                                                                                                                                              |
| FMT_MOF.1                                  | FMT_SMR.1<br>FMT_SMF.1      | FMT_SMR.1<br>FMT_SMF.1       | OK                                                                                                                                              |

| TOE Security Functional Requirement | Claimed Dependencies                                     | SFR for the ST                         | Sufficiency                                                                                                                                                                                                                                                                                                                                                       |
|-------------------------------------|----------------------------------------------------------|----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FMT_MSA.1(a)                        | [FDP_ACC.1<br>or<br>FDP_IFC.1]<br>FMT_SMR.1<br>FMT_SMF.1 | FDP_ACC.1(a)<br>FMT_SMR.1<br>FMT_SMF.1 | OK<br>However, since no interface is provided to modify user roles, modify document data owner information (+PRT, +SCN, +FAXOUT, +FAXIN, +CPY), modify document data owner information (+DSR: document data other than that received via a telephone line), or modify user job data owner information, these management functions are not required for FMT_SMF.1. |
| FMT_MSA.1(b)                        | [FDP_ACC.1<br>or<br>FDP_IFC.1]<br>FMT_SMR.1<br>FMT_SMF.1 | FDP_ACC.1(b)<br>FMT_SMR.1<br>FMT_SMF.1 | OK<br>However, since no interface is provided to modify user roles or modify function types, these management functions are not required for FMT_SMF.1.                                                                                                                                                                                                           |
| FMT_MSA.3(a)                        | FMT_MSA.1<br>FMT_SMR.1                                   | FMT_MSA.1(a)<br>FMT_SMR.1              | OK                                                                                                                                                                                                                                                                                                                                                                |
| FMT_MSA.3(b)                        | FMT_MSA.1<br>FMT_SMR.1                                   | FMT_MSA.1(b)<br>FMT_SMR.1              | OK                                                                                                                                                                                                                                                                                                                                                                |
| FMT_MTD.1(a)                        | FMT_SMR.1<br>FMT_SMF.1                                   | FMT_SMR.1<br>FMT_SMF.1                 | OK                                                                                                                                                                                                                                                                                                                                                                |
| FMT_MTD.1(b)                        | FMT_SMR.1<br>FMT_SMF.1                                   | FMT_SMR.1                              | OK<br>However, since no interface is provided to query login passwords or modify signatures for integrity verification, these management functions are not required for FMT_SMF.1.                                                                                                                                                                                |
| FMT_SMF.1                           | None                                                     | None                                   | OK                                                                                                                                                                                                                                                                                                                                                                |
| FMT_SMR.1                           | FIA_UID.1                                                | FIA_UID.1                              | OK                                                                                                                                                                                                                                                                                                                                                                |
| FPT_STM.1                           | None                                                     | None                                   | OK                                                                                                                                                                                                                                                                                                                                                                |
| FPT_TST.1                           | None                                                     | None                                   | OK                                                                                                                                                                                                                                                                                                                                                                |
| FTA_SSL.3                           | None                                                     | None                                   | OK                                                                                                                                                                                                                                                                                                                                                                |
| FTP_ITC.1                           | None                                                     | None                                   | OK                                                                                                                                                                                                                                                                                                                                                                |



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#### 6.3.4 Security Assurance Requirements Rationale

This TOE is an MFP, which is a commercially available product. The MFP is assumed that it will be used in a general office and this TOE does not assume the attackers with Enhanced-Basic or higher level of attack potential.

The evaluation of the TOE design (ADV\_TDS.1) is adequate to show the validity of commercially available products. A high attack potential is required for the attacks that circumvent or alter the TSF, which is not covered in this evaluation. Dealing with attacks performed by an attacker possessing Basic attack potential (AVA\_VAN.2) is therefore adequate for general needs.

In order to securely operate the TOE continuously, it is important to appropriately remediate the flaw discovered after the start of the TOE operation according to flaw reporting procedure (ALC\_FLR.2).

Based on the terms and costs of the evaluation, the evaluation assurance level of EAL2+ALC\_FLR.2 is appropriate for this TOE.

## 7 TOE Summary Specification

This section describes the TOE summary specification for each security function. The security functions are described for each corresponding security functional requirement.

### 7.1 Audit Function

The Audit Function is to record a log that associates TOE audit events with user identification information as the audit log. Also, this function provides the recorded audit log in a format that can be audited. The recorded audit log can be downloaded and deleted only by the MFP administrator. This function also includes a function to provide reliable time stamps and a control function used when the audit log is full. The audit log can also be transferred to and saved on the syslog server.

#### FAU\_GEN.1

The TOE records the audit log items, shown in Table 37, on the HDD in the TOE when audit events shown in Table 36 occur.

Audit log items include basic log items and expanded log items. Basic log items are recorded whenever audit logs are recorded, and expanded log items are recorded only when audit events occur and the audit log items shown in Table 37 are recorded. Among the auditable events, the failure of the trusted channel functions refers to the failure of the function that performs communications via trusted channels. This function includes WIM communication, folder transmission, e-mail transmission of attachments, temporary saving and storing document data received from the printer driver, storing document data received from the fax driver, and syslog transfer. Therefore, logs of these communication failures are audit events.

**Table 36 : List of Audit Events**

| Audit Event                                                                            |
|----------------------------------------------------------------------------------------|
| Start-up of the Audit Function                                                         |
| Shutdown of the Audit Function                                                         |
| Download and deletion of audit logs                                                    |
| Success and failure of login operations                                                |
| Starting and releasing lockout                                                         |
| Use of the management functions in Table 32                                            |
| Termination of session by Auto Logout                                                  |
| Failure of WIM communication                                                           |
| Failure of folder transmission                                                         |
| Failure of e-mail transmission of attachments                                          |
| Failure of temporary saving and storing document data received from the printer driver |
| Failure of storing document data received from the fax driver                          |
| Failure of syslog transfer                                                             |

| Audit Event                                                                                                            |
|------------------------------------------------------------------------------------------------------------------------|
| Deletion of user job data                                                                                              |
| Creating (storing) document data                                                                                       |
| Reading document data (print, download, fax transmission, e-mail transmission of attachments, and folder transmission) |
| Deletion of document data                                                                                              |

Table 37 : List of Audit Log Items

|                    | Audit Log Item                 | Setting Values of Audit Log Item                                                                                                                                                                                                                            | Audit Events to Record Audit Logs                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|--------------------|--------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Basic Log Items    | Starting date/time of an event | Values of the TOE system clock at an event occurrence                                                                                                                                                                                                       | - All auditable events shown in Table 36                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|                    | Ending date/time of an event   | Values of the TOE system clock at an event termination                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|                    | Event types                    | Audit event identity                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|                    | Subject identity               | Login user name of the user who caused the audit event                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|                    | Outcome                        | Audit event outcome (*1)                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Expanded Log Items | Job types                      | Creation, print, download, fax transmission, e-mail transmission of attachments, folder transmission, deletion of document data, and deletion of user job data. (For deletion of user job data, the values are recorded in the cancellation details field.) | <ul style="list-style-type: none"> <li>- Start and end of creating document data</li> <li>- Start and end of printing document data</li> <li>- Start and end of downloading document data</li> <li>- Start and end of sending document data by fax transmission</li> <li>- Start and end of sending document data by e-mail transmission of attachments</li> <li>- Start and end of sending document data by folder transmission</li> <li>- Deletion of document data</li> <li>- Deletion of user job data</li> </ul> Those described above, "creating, printing, and downloading document data, sending document data by fax transmission, e-mail transmission of attachments, and folder transmission, deletion of document data, and deletion of user job data", correspond to the job types. |
|                    | Login user name                | All login user names that attempted the user identification                                                                                                                                                                                                 | - Success and failure of login operations                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

|  | Audit Log Item                        | Setting Values of Audit Log Item                                    | Audit Events to Record Audit Logs                                                                                                                                                                                                                                 |
|--|---------------------------------------|---------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | Communicating devices                 | Communicating IP address                                            | - Failure of WIM communication<br>- Failure of folder transmission<br>- Failure of temporary saving and storing document data received from the printer driver<br>- Failure of storing document data received from the fax driver<br>- Failure of syslog transfer |
|  |                                       | Communicating e-mail address for e-mail transmission of attachments | - Failure of e-mail transmission of attachments                                                                                                                                                                                                                   |
|  | Lockout operation type                | Information to identify starting lockout and releasing lockout      | - Starting and releasing lockout                                                                                                                                                                                                                                  |
|  | Locked out user                       | Login user name of a user who is locked out                         | - Starting and releasing lockout                                                                                                                                                                                                                                  |
|  | Locked out user who is to be released | Login user name of a user who is released from lockout              | - Starting and releasing lockout                                                                                                                                                                                                                                  |

(\*1): Either "success" or "failure" will be recorded. If an audit event is "deletion of document data", only "success" will be recorded.

For the following audit events, "failure" will be recorded.

- Failure of WIM communication
- Failure of folder transmission
- Failure of temporary saving and storing document data received from the printer driver
- Failure of storing document data received from the fax driver
- Failure of syslog transfer
- Failure of e-mail transmission of attachments

## FAU\_GEN.2

The TOE records the login user name in the audit log so that it can identify who caused the audit event.

## FPT\_STM.1

The date (year/month/day) and time (hour/minute/second) recorded in the audit log are derived from the system clock of the TOE.

## FAU\_SAR.1 and FAU\_SAR.2

The TOE provides the MFP administrators with all audit logs in a text format. The TOE allows the MFP administrator to download audit logs with the WIM only when the MFP administrator accesses it. The TOE does not provide an interface for downloading audit logs to all users except the MFP administrators.

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**FAU\_STG.1**

The TOE allows only the MFP administrators to delete audit logs. To delete audit logs, the WIM or the Operation Panel will be used. The TOE does not provide an interface for making partial changes to audit logs.

**FAU\_STG.4**

The TOE writes the newest audit log over the oldest audit log when there is insufficient space in the audit log files to append the newest audit log.

## 7.2 Identification and Authentication Function

The Identification and Authentication Function is to verify whether a person who attempts to use the TOE is an authorised user based on the login user name and login password entered by the user, so that the TOE can allow only the authenticated users to use the TOE and reject the users when the authentication fails. The lockout function, password protection function, and Auto Logout function are also included in this function.

**FIA\_UAU.1 and FIA\_UID.1**

The TOE identifies and authenticates a user with the login user name and login password.

Before the Operation Panel or the WIM is used, the TOE displays the login screen and prompts the user to enter the login user name and login password.

In addition, when the TOE receives a request from the printer driver or fax driver, the TOE receives the login user name and login password entered by a user at the same time as the request.

The TOE performs identification and authentication by checking whether the login user name and login password entered by the user match the login user name and login password registered in the TOE in advance. If the identification and authentication is successful, the user is allowed to use the TOE. If it fails, the user is not allowed to use it. However, regarding the viewing of the list of user job data, WIM Help, system status, counter, and information of inquiries, and execution of fax reception, the identification and authentication is not required for the use of the TOE.

**FIA\_USB.1**

Based on the result of checking FIA\_UAU.1 and FIA\_UID.1, the TOE assigns the login user name, user role, and available function list to processes performed by the authorised user.

**FIA\_ATD.1**

The TOE retains the login user name, user role, and available function list based on settings for each user. The privilege is set for each user according to the role to which the user is classified at the time of registration. The login user name assigned to the user can be changed for each user.

**FTA\_SSL.3**

The TOE automatically logs out the users when they are logged in and do not operate the TOE for a certain period of time specified by the MFP administrator.

The TOE works as follows depending on the interface to which the user is logged-in.

- In case of the Operation Panel, the user is logged out of the TOE when the time that elapses since their final operation reaches the Operation Panel Auto Logout time (10 to 999 seconds).
- In case of the WIM, the user is logged out of the TOE when the time that elapses since their final operation reaches the WIM Auto Logout time (3 to 60 minutes).

The TOE also performs identification and authentication for the requests from the printer driver and the fax driver. At this time, there is no continuous interactive session that shall be automatically logged out because the user is logged out when the reception of the document data is completed.

#### **FIA\_UAU.7**

Regarding login passwords entered by persons who attempt to use the Operation Panel or the WIM, the TOE does not display the entered letters, instead, it displays a sequence of dummy letters with same number of characters as the entered password on the login screen.

#### **FIA\_AFL.1**

If the user enters a wrong password in succession when logging in, the lockout function will work and the TOE will prohibit the user from logging in with that login user name.

When the login fails due to entering a wrong password, the user is locked out when the number of attempts before lockout for the password (1 to 5 times) set by the MFP administrator is reached or exceeded.

The number of authentication failures is added up even if the login destination (Operation Panel, WIM, printer driver, and fax driver) varies.

With the locked-out login user name, authentication will fail even if the user enters the correct password. The user cannot use the TOE until the lockout is released after a certain period of time elapses or the MFP administrator or supervisor unlocks the lockout.

If a user name is locked out, the user with that user name is not allowed to log in unless any of the following conditions is fulfilled.

- For normal users, until the lockout time set by the MFP administrator elapses.
- For locked out users listed in Table 38, until an unlocking administrator specified for each user role releases the lockout.
- In case of the MFP administrator and supervisor, 60 seconds elapse since the MFP becomes executable after its power is turned off and then on.

**Table 38 : Unlocking Administrators for Each User Role**

| <b>User Role (Locked out User)</b> | <b>Unlocking Administrator</b> |
|------------------------------------|--------------------------------|
| Normal user                        | MFP administrator              |
| Supervisor                         | MFP administrator              |
| MFP administrator                  | Supervisor                     |

#### **FIA\_SOS.1**

Login passwords for users can be registered only if these passwords meet the given conditions. Passwords cannot be registered if they do not satisfy the conditions.

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Usable characters and character types are as follows. The password complexity, which determines the conditions for the number of combination of characters (two or more types, or three or more types) is set by the MFP administrator.

- Upper-case letters: [A-Z] (26 letters)
- Lower-case letters: [a-z] (26 letters)
- Numbers: [0-9] (ten digits)
- Symbols: SP (spaces) ! " # \$ % & ' ( ) \* + , - . / : ; < = > ? @ [ ¥ ] ^ \_ ` { | } ~ (33 symbols)

The conditions for registrable password length differ depending on normal users, MFP administrators, and a supervisor, as shown below. The minimum character number of login password (i.e. minimum password length) is set by the MFP administrator in the range of 8 to 32 characters.

- For normal users: Equal to or longer than the minimum password length, and 128 characters or less
- For MFP administrators and a supervisor: Equal to or longer than the minimum password length, and 32 characters or less

### **FPT\_FDI\_EXP.1**

The TOE inputs information after the TSF reliably identifies and authenticates the input information from the Operation Panel or the client computer via LAN interface. Therefore, the input information cannot be forwarded unless the TSF is involved in information identification and authentication.

## **7.3 Document Access Control Function**

The Document Access Control Function is to authorise the operations for document data and user job data by the authorised TOE users who are authenticated by Identification and Authentication Function. It allows user's operation on the document data and user job data based on the privileges for the user role, or the operation permissions for each user.

### **FDP\_ACC.1(a) and FDP\_ACF.1(a)**

The TOE provides the Document Access Control Function by enforcing the user data access control SFPs.

Rules of user data access control SFP are divided into (1) access control rule on document data and (2) access control rule on user job data. According to them, the TOE restricts the operations on document data and user job data by users.

- (1) Access control rule on document data

Table 39 shows the access control rules for document data. The TOE restricts the operation of deleting or reading document data to normal users, MFP administrators, and supervisors.

Table 40 shows normal user operations for document data, and Table 41 shows MFP administrator operations for document data. No interface is provided for the operations other than that described in Table 40 and Table 41.

Table 39 : Access Control Rules for Document Data

| User Role   | Document Data                                                                                                             | Access Control Rule                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-------------|---------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Normal user | Document data<br>(+PRT)                                                                                                   | <p>Normal users who have the same login user name as the login user name registered in the document owner information are allowed read and delete operations.</p> <p>For the read operation, other normal users cannot display the document data, and they are not allowed the read operation.</p> <p>For the delete operation, other normal users can display the jobs related to a temporary document data, but they are not allowed the delete operation.</p>                                     |
|             | Document data<br>(+CPY, +SCN, +FAXOUT)                                                                                    | <p>Normal users who have the same login user name as the login user name registered in the document owner information are allowed read and delete operations.</p> <p>For the read operation, other normal users are not provided any interface for reading.</p> <p>For the delete operation, other normal users can display the jobs related to a temporary document data, but they are not allowed the delete operation.</p>                                                                        |
|             | Document data<br>(+FAXIN)                                                                                                 | No interface for operating the fax reception data is provided.                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|             | Document data<br>(+DSR)<br>(Stored print document, Document Server document, Scanned document, Fax transmission document) | <p>Normal users who have the same login user name as the login user name registered in the document owner information are allowed read and delete operations.</p> <p>Also, normal users who have the same login user name as the login user name registered in the list for users who have been granted access permission for the document data are allowed the read operation.</p> <p>Other normal users cannot display the document data, and they are not allowed read and delete operations.</p> |
|             | Document data<br>(+DSR)<br>(Fax reception document)                                                                       | <p>Normal users who have the same login user name as the login user name registered in the document owner information (Stored Reception File User) are allowed read and delete operations.</p> <p>Other normal users cannot display the document data, and they are not allowed read and delete operations.</p>                                                                                                                                                                                      |



| User Role         | Document Data                                                                                      | Access Control Rule                                                                                                                                                                                        |
|-------------------|----------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MFP administrator | Document data<br>(+PRT, +CPY, +SCN, +FAXOUT)                                                       | MFP administrators are allowed the delete operation for the document data.                                                                                                                                 |
|                   | Document data<br>(+FAXIN)                                                                          | Fax reception (fax reception job) is regarded as reception by the MFP administrator, and the MFP administrator is allowed the read operation.<br>No interface for deleting fax reception data is provided. |
|                   | Document data<br>(+DSR)<br>(Stored print document)                                                 | MFP administrators are allowed the delete operation for the document data.                                                                                                                                 |
|                   | Document data (+DSR)<br>(Document Server document,<br>Scanned document, Fax transmission document) | MFP administrators are allowed read and delete operations for the document data.                                                                                                                           |
|                   | Document data (+DSR)<br>(Fax reception document)                                                   | No interface for operating document data is provided.                                                                                                                                                      |
| Supervisor        | Document data                                                                                      | No interface for operating document data is provided.                                                                                                                                                      |

Table 40 : Normal User Operations for Document Data

| No. | TOE Function<br>(TOE Document Name) | Operation Path  | Operations                                                                          | SFR Package<br>Functions in PP |
|-----|-------------------------------------|-----------------|-------------------------------------------------------------------------------------|--------------------------------|
| 1   | Copy Function                       | Operation Panel | Delete (*1)<br>Copy and print                                                       | F.CPY<br>(+CPY)                |
| 2   | Scanner Function                    | Operation Panel | Delete (*1)<br>E-mail transmission of attachments<br>Folder transmission<br>Preview | F.SCN<br>(+SCN)                |

| No. | TOE Function<br>(TOE Document Name)            | Operation Path  | Operations                                                                        | SFR Package<br>Functions in PP     |
|-----|------------------------------------------------|-----------------|-----------------------------------------------------------------------------------|------------------------------------|
| 3   | Scanner Function<br>(Scanned document)         | Operation Panel | Delete<br>E-mail transmission of<br>attachments<br>Folder transmission<br>Preview | F.DSR<br>(+DSR)                    |
| 4   | Fax Function                                   | Operation Panel | Delete (*1)<br>Fax transmission<br>Preview                                        | F.FAX<br>(+FAXOUT)                 |
| 5   | Fax Function<br>(Fax transmission document)    | Operation Panel | Delete<br>Fax transmission<br>Preview                                             | F.DSR<br>(+DSR)                    |
| 6   | Fax Function<br>(Fax reception document)       | Operation Panel | Delete<br>Print<br>Preview                                                        | F.DSR<br>(+DSR)<br>F.PRT<br>(+PRT) |
| 7   | Fax Function<br>(Fax reception document)       | WIM             | Delete<br>Download<br>Preview                                                     | F.DSR<br>(+DSR)                    |
| 8   | Printer Function<br>(Temporary saved document) | Operation Panel | Delete (*1)<br>Print<br>Preview                                                   | F.PRT<br>(+PRT)                    |
| 9   | Printer Function<br>(Temporary saved document) | WIM             | Delete (*1)                                                                       | F.PRT<br>(+PRT)                    |
| 10  | Printer Function<br>(Stored print document)    | Operation Panel | Delete<br>Print<br>Preview                                                        | F.DSR<br>(+DSR)<br>F.PRT<br>(+PRT) |
| 11  | Printer Function<br>(Stored print document)    | WIM             | Delete                                                                            | F.DSR<br>(+DSR)                    |

| No. | TOE Function<br>(TOE Document Name)                                                  | Operation Path  | Operations                                                                                    | SFR Package<br>Functions in PP     |
|-----|--------------------------------------------------------------------------------------|-----------------|-----------------------------------------------------------------------------------------------|------------------------------------|
| 12  | Document Server Function<br>(Fax transmission document,<br>Document Server document) | Operation Panel | Delete<br>Print<br>Preview                                                                    | F.DSR<br>(+DSR)<br>F.PRT<br>(+PRT) |
| 13  | Document Server Function<br>(Scanned document)                                       | WIM             | Delete<br>E-mail transmission of<br>attachments<br>Folder transmission<br>Download<br>Preview | F.DSR<br>(+DSR)                    |
| 14  | Document Server Function<br>(Fax transmission document)                              | WIM             | Delete<br>Fax transmission<br>Download<br>Preview                                             | F.DSR<br>(+DSR)                    |
| 15  | Document Server Function<br>(Document Server document)                               | WIM             | Delete<br>Preview                                                                             | F.DSR<br>(+DSR)                    |

(\*1) By cancelling the job, the temporary document data handled by the user job data will be deleted.

**Table 41 : MFP Administrator Operations for Document Data**

| No. | TOE Function<br>(TOE Document)            | Operation Path  | Operations  | SFR Package Functions in<br>PP |
|-----|-------------------------------------------|-----------------|-------------|--------------------------------|
| 1   | Copy Function                             | Operation Panel | Delete (*1) | F.CPY<br>(+CPY)                |
| 2   | Scanner Function                          | Operation Panel | Delete (*1) | F.SCN<br>(+SCN)                |
| 3   | Scanner Function<br>(Scanned<br>document) | Operation Panel | Delete      | F.DSR<br>(+DSR)                |
| 4   | Fax Function                              | Operation Panel | Delete (*1) | F.FAX<br>(+FAXOUT)             |

| No | TOE Function<br>(TOE Document)                                                                            | Operation Path  | Operations        | SFR Package Functions in<br>PP |
|----|-----------------------------------------------------------------------------------------------------------|-----------------|-------------------|--------------------------------|
| 5  | Printer Function<br>(Temporary saved document)                                                            | Operation Panel | Delete (*1)       | F.PRT<br>(+PRT)                |
| 6  | Printer Function<br>(Temporary saved document)                                                            | WIM             | Delete (*1)       | F.PRT<br>(+PRT)                |
| 7  | Printer Function<br>(Stored print document)                                                               | Operation Panel | Delete            | F.DSR<br>(+DSR)                |
| 8  | Printer Function<br>(Stored print document)                                                               | WIM             | Delete            | F.DSR<br>(+DSR)                |
| 9  | Document Server Function<br>(Fax transmission document,<br>Document Server document)                      | Operation Panel | Delete            | F.DSR<br>(+DSR)                |
| 10 | Document Server Function<br>(Scanned document,<br>Fax transmission document,<br>Document Server document) | WIM             | Delete<br>Preview | F.DSR<br>(+DSR)                |

(\*1) By cancelling the job, the temporary document data handled by the user job data will be deleted.

(2) Access control rule on user job data

The TOE provides users with the interface for deleting (cancelling) user job data. However, no interface for deleting user job data for fax reception (+FAXIN) is provided.

No interface for modifying the user job data is provided.

- For normal user: The normal user whose login user name matches the login user name registered in the user job data owner information is allowed to delete the user job data. Other normal users are allowed to display the user job data, but are not allowed to delete the user job data.

- 
- For MFP administrator: MFP administrators are allowed to delete the user job data.
  - For supervisor: No interface for operating the user job data is provided.

## 7.4 Use-of-Feature Restriction Function

The Use-of-Feature Restriction Function is to authorise the job execution of MFP applications based on the roles of authorised users who are identified and authenticated and the operation permissions for each user.

### FDP\_ACC.1(b) and FDP\_ACF.1(b)

The TOE provides the Use-of-Feature Restriction Function by enforcing the TOE function access control SFP that determines whether the job execution of MFP applications provided by the TOE is authorised for normal users and the additional rules for MFP administrators and a supervisor.

The TOE verifies the role for an authorised user who attempts to start executing the job of MFP applications (Copy Function, Printer Function, Scanner Function, Document Server Function, and Fax Function) provided by the TOE. If the user role is normal user, only the job execution for the MFP applications whose function type matches those in available function list is permitted. If the user role is MFP administrator, the job execution for MFP applications is permitted. If the user role is supervisor, the job execution for MFP applications is not permitted.

## 7.5 Network Protection Function

The Network Protection Function is to prevent information leakage due to network monitoring and detect alteration by providing encrypted communication when communicating with trusted IT products. Communication with the client computer when using WIM, printer driver, or fax driver is encrypted by TLS, and communication with SMB server and FTP server when using folder transmission is protected by IPsec. Also, communication with mail server when using e-mail transmission of attachments is protected by S/MIME, and communication with syslog server when the audit log transfer setting is enabled is encrypted by TLS.

### FTP\_ITC.1

The TOE provides different encrypted communications depending on communicating devices when the TOE communicates with trusted IT products (WIM communication, folder transmission, e-mail transmission of attachments, temporary saving or storing document data received from the printer driver, storing document data received from the fax driver, and transfer to the syslog server). The TOE allows the client computer's Web browser, printer driver, or fax driver to initiate encrypted communication. The TOE can initiate encrypted communication with the mail server, SMB server, FTP server, or syslog server. Table 42 shows the encrypted communications provided by the TOE.

When using the WIM, encrypted communication with the client computer is performed by specifying a URL for which encrypted communication is valid on a Web browser. When using the Printer Function, encrypted communication with the client computer (IPP over SSL) is performed when document data is sent from the printer driver to the TOE. When using the Fax Function, encrypted communication with the client computer (IPP over SSL) is performed when document data is sent from the fax driver to the TOE. When using the e-

mail transmission of attachments, encrypted communication with the mail server (S/MIME) is performed. When using the folder transmission, encrypted communication with the FTP server or SMB server (IPsec) is performed. When using the syslog transfer function, encrypted communication with the syslog server protected by TLS is performed by using the syslog protocol.

**Table 42 : Encrypted Communications Provided by the TOE**

| Communicating Device | Encrypted Communication Provided by the TOE |                                               |
|----------------------|---------------------------------------------|-----------------------------------------------|
|                      | Protocol                                    | Cryptographic Algorithms                      |
| Client computer (*1) | TLS1.2                                      | AES (128 bits, 256 bits)                      |
|                      | TLS1.3                                      | AES (128 bits, 256 bits), ChaCha20 (256 bits) |
| FTP server           | IPsec                                       | AES (128 bits, 192 bits, 256 bits)            |
| SMB server           | IPsec                                       | AES (128 bits, 192 bits, 256 bits)            |
| Mail server          | S/MIME                                      | AES (128 bits, 256 bits)                      |
| syslog server        | TLS1.2                                      | AES (128 bits, 256 bits)                      |
|                      | TLS1.3                                      | AES (128 bits, 256 bits), ChaCha20 (256 bits) |

(\*1) When the communication uses the printer driver or fax driver, the TLS version of the supporting protocol depends on the OS version of the client computer.

## 7.6 Residual Data Overwrite Function

The Residual Data Overwrite Function is to overwrite random numbers or specific pattern data on the HDD and disable the reusing of the residual data included in deleted document data, temporary document data and their fragments on the HDD.

### FDP\_RIP.1

Methods to delete the HDD area through overwriting include sequential overwriting and batch overwriting.

For sequential overwriting, the TOE constantly monitors the information on a residual data area, and overwrites the area if any existing residual data is discovered. When the user deletes document data, the TOE overwrites the area on the HDD where the digital image data of the document data is stored with random numbers. Also, when the job is complete, the TOE overwrites the area on the HDD where temporary document data that are created while the job is executed or the fragments of those temporary document data are stored with random numbers.

For batch overwriting, the TOE collectively overwrites the HDD. The TOE overwrites the HDD with the method specified by the MFP administrator. Batch overwriting methods include NSA, DoD, random number, BSI/VSITR, and Secure Erase methods.

The NSA method overwrites twice with random numbers and once with Null(0). The DoD method overwrites once with a certain value, once with its complement, and further with random numbers to be verified afterwards. The random number method overwrites three to nine times with random numbers. The MFP administrator specifies the number of times to overwrite when the TOE is installed. The BSI/VSITR method

overwrites data with 00, FF, 00, FF, 00, FF, AA in this order. The Secure Erase method overwrites data using the ATA command "secure erase".

## 7.7 Security Management Function

The Security Management Function is to control operations for TSF data in accordance with user privileges allocated to each user or user role privileges allocated to the normal user, MFP administrator, and supervisor. In order to enable control, this function includes a function to maintain the user role of operating the Security Management Function and associate the user role with the authorised TOE user authenticated by the Identification and Authentication Function, and a function to set appropriate default values for the security attributes.

### FMT\_SMR.1

The TOE user has the role of normal user, MFP administrator, or supervisor. The role is associated with the login user name registered in the TOE. The TOE associates the logged-in user with the role corresponding to the login user name.

### FMT\_SMF.1, FMT\_MOF.1, FMT\_MSA.1(a), FMT\_MSA.1(b), FMT\_MTD.1(a), and FMT\_MTD.1(b)

The TOE performs the following management functions:

- The TOE provides only the MFP administrators with an interface for setting the syslog transfer function to stop or operate.
- The TOE restricts operations on the TSF data according to the role of the user. As shown in Table 43, it allows users who have privilege corresponding to the role for which operations are allowed to operate the TSF Data.

**Table 43 : Management of TSF Data**

| Category           | TSF Data                  | Operations                       | User Role with Operation Permission | Operation Interface            |
|--------------------|---------------------------|----------------------------------|-------------------------------------|--------------------------------|
| TSF protected data | Lockout settings          | Modify                           | MFP administrator                   | WIM                            |
|                    | Date/time settings        | Modify                           | MFP administrator                   | Operation Panel<br>WIM         |
|                    | Password quality settings | Modify                           | MFP administrator                   | Operation Panel<br>WIM         |
|                    | Auto Logout settings      | Modify                           | MFP administrator                   | Operation Panel<br>WIM         |
|                    | S/MIME user information   | Newly create<br>Modify<br>Delete | MFP administrator                   | Operation Panel<br>(*3)<br>WIM |

| Category | TSF Data                                                                        | Operations                       | User Role with Operation Permission                    | Operation Interface         |
|----------|---------------------------------------------------------------------------------|----------------------------------|--------------------------------------------------------|-----------------------------|
|          | Destination folder                                                              | Newly create<br>Modify<br>Delete | MFP administrator                                      | Operation Panel<br>WIM      |
|          | Audit log settings                                                              | Modify                           | MFP administrator                                      | Operation Panel<br>WIM      |
|          | Cryptographic communication settings                                            | Modify                           | MFP administrator                                      | Operation Panel<br>WIM      |
|          | Signature for integrity verification                                            | Modify (*1)                      | None                                                   | None                        |
|          | Login user name<br>[When associated with a normal user]                         | Newly create<br>Modify<br>Delete | MFP administrator                                      | Operation Panel<br>WIM      |
|          | Login user name<br>[When associated with an MFP administrator]                  | Newly create                     | MFP administrator                                      | Operation Panel<br>WIM      |
|          |                                                                                 | Modify                           | MFP administrator in question                          |                             |
|          | Login user name<br>[When associated with a supervisor]                          | Modify                           | Supervisor                                             | Operation Panel<br>WIM      |
|          | User role                                                                       | Modify (*1)                      | None                                                   | None                        |
|          | Document data owner information<br>[+PRT, +SCN, +FAXIN, +FAXOUT, +CPY]          | Modify (*1)                      | None                                                   | None                        |
|          | Document data owner information<br>[Other than +DSR and Fax reception document] | Modify (*1)                      | None                                                   | None                        |
|          | Document data owner information<br>[+DSR, Fax reception document]               | Modify                           | MFP administrator                                      | Operation Panel<br>WIM      |
|          | List for users who have been granted access permission for the document data    | Modify                           | MFP administrator<br>Document data owner (Normal user) | Operation Panel (*4)<br>WIM |
|          |                                                                                 | Change_default                   | MFP administrator                                      | Operation Panel<br>WIM      |
|          | User job data owner information                                                 | Modify (*1)                      | None                                                   | None                        |
|          | Available function list                                                         | Newly create<br>Modify<br>Delete | MFP administrator                                      | Operation Panel<br>WIM      |



| Category              | TSF Data                                                      | Operations   | User Role with Operation Permission          | Operation Interface    |
|-----------------------|---------------------------------------------------------------|--------------|----------------------------------------------|------------------------|
|                       | Function type                                                 | Modify (*1)  | None                                         | None                   |
| TSF confidential data | Login password<br>[When associated with a normal user]        | Newly create | MFP administrator                            | Operation Panel<br>WIM |
|                       |                                                               | Modify       | Normal user in question<br>MFP administrator |                        |
|                       |                                                               | Query (*2)   | None                                         |                        |
|                       | Login password<br>[When associated with an MFP administrator] | Newly create | MFP administrator                            | Operation Panel<br>WIM |
|                       |                                                               | Modify       | MFP administrator in question<br>Supervisor  |                        |
|                       |                                                               | Query (*2)   | None                                         |                        |
|                       | Login password<br>[When associated with a supervisor]         | Modify       | Supervisor                                   | Operation Panel<br>WIM |
|                       |                                                               | Query (*2)   | None                                         |                        |

(\*1) No interface is provided for modification.

(\*2) No interface is provided for query.

(\*3) The operation that can be performed from the Operation Panel is only the operation of the e-mail addresses that is the item set for each user, included in the S/MIME user information.

(\*4) For Stored print document, the list for users who have been granted access permission for the document data cannot be operated by using the Operation Panel. It can be operated only by using WIM.

### FMT\_MSA.3(a) and FMT\_MSA.3(b)

Table 44 shows the list of static initialisation for security attributes, and Table 45 shows security attributes for each case of document data generation.

The TOE sets default values of security attributes for objects according to the rules described in Table 44 and Table 45 when those objects are generated. Overwriting the default values of the security attributes is allowed only in limited cases, and "None" is indicated when no overwriting interface is provided.

**Table 44 : List of Static Initialisation for Security Attributes**

| Object        | Security Attribute                                                           | Default Value | Overwriting Default Value |
|---------------|------------------------------------------------------------------------------|---------------|---------------------------|
| Document data | Document data owner information                                              | See Table 45. | See Table 45.             |
|               | List for users who have been granted access permission for the document data | See Table 45. | See Table 45.             |

| Object          | Security Attribute              | Default Value                                                                                                                                                  | Overwriting Default Value |
|-----------------|---------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|
| User job data   | User job data owner information | Login user names of normal users who created the user job data.                                                                                                | None                      |
| MFP application | Function type                   | Values that identify each function (Copy Function, Scanner Function, Printer Function, Fax Function, and Document Server Function) among the MFP applications. | None                      |

Table 45 : Security Attributes for Each Case of Document Data Generation

| Case of Document Data Generation                                                                                                                             | Security Attribute              | Default Value                                                                                                     | Overwriting Default Value |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|-------------------------------------------------------------------------------------------------------------------|---------------------------|
| Scans a paper document, and then copies and prints scanned image data from the Operation Panel by using the Copy Function (F.CPY)                            | Document data owner information | Login user names of normal users who created the document data.                                                   | None                      |
| Scans a paper document and performs folder transmission or e-mail transmission of attachments from the Operation Panel by using the Scanner Function (F.SCN) | Document data owner information | Login user names of normal users who created the document data.                                                   | None                      |
| Scans a paper document and performs fax transmission from the Operation Panel by using the Fax Function (F.FAX)                                              | Document data owner information | Login user names of normal users who created the document data.                                                   | None                      |
| Receives the document data and temporarily saves it in the TOE from the printer driver by using the Printer Function (F.PRT)                                 | Document data owner information | Login user names of normal users who created the document data.                                                   | None                      |
| Receives the document data via a telephone line by using the Fax Function (F.FAX)                                                                            | None                            | None                                                                                                              | None                      |
| Receives the document data via a telephone line and stores it by using the Fax Function (F.DSR)                                                              | Document data owner information | The list that fax reception document owner information (the login user names) is set (Stored Reception File User) | None                      |

| Case of Document Data Generation                                                                                                                                                                            | Security Attribute                                                           | Default Value                                                                                                                                                   | Overwriting Default Value                                                                                                                          |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| Scans a paper document and stores it from the Operation Panel by using the Scanner Function (F.SCN and F.DSR)                                                                                               | Document data owner information                                              | Login user names of normal users who created the document data.                                                                                                 | None                                                                                                                                               |
|                                                                                                                                                                                                             | List for users who have been granted access permission for the document data | Default values in the list for users who have been granted access permission for the document data (the list of login user names) for the document data creator | The values that the document data creator has allowed access (viewing) (the list of login user names) can be overwritten from the Operation Panel. |
| Scans a paper document and stores it from the Operation Panel by using the Fax Function (F.SCN and F.DSR)                                                                                                   | Document data owner information                                              | Login user names of normal users who created the document data.                                                                                                 | None                                                                                                                                               |
|                                                                                                                                                                                                             | List for users who have been granted access permission for the document data | Default values in the list for users who have been granted access permission for the document data (the list of login user names) for the document data creator | The values that the document data creator has allowed access (viewing) (the list of login user names) can be overwritten from the Operation Panel. |
| Receives the document data and stores it from the fax driver by using the Fax Function (F.DSR)                                                                                                              | Document data owner information                                              | Login user names of normal users who created the document data.                                                                                                 | None                                                                                                                                               |
|                                                                                                                                                                                                             | List for users who have been granted access permission for the document data | Default values in the list for users who have been granted access permission for the document data (the list of login user names) for the document data creator | None                                                                                                                                               |
| Scans a paper document and stores it from the Operation Panel by using the Document Server Function (F.SCN and F.DSR), or scans a paper document and stores it by using the Copy Function (F.SCN and F.DSR) | Document data owner information                                              | Login user names of normal users who created the document data.                                                                                                 | None                                                                                                                                               |
|                                                                                                                                                                                                             | List for users who have been granted access permission for the document data | Default values in the list for users who have been granted access permission for the document data (the list of login user names) for the document data creator | The values that the document data creator has allowed access (viewing) (the list of login user names) can be overwritten from the Operation Panel. |
| Receives the document data and stores it from the printer driver specifying the print                                                                                                                       | Document data owner information                                              | Login user names of normal users who created the document data.                                                                                                 | None                                                                                                                                               |

| Case of Document Data Generation                                                        | Security Attribute                                                           | Default Value                                                                                                                                                   | Overwriting Default Value |
|-----------------------------------------------------------------------------------------|------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|
| method as Document Server storage or stored print by using the Printer Function (F.DSR) | List for users who have been granted access permission for the document data | Default values in the list for users who have been granted access permission for the document data (the list of login user names) for the document data creator | None                      |

## 7.8 Integrity Verification Function

The Integrity Verification Function is a self-test function to verify that a part of TSF and the TSF executable code have a software configuration that maintains integrity during the MFP initial start-up. The objects whose integrity is verified here are the executable codes and signatures for integrity verification of the MFP Control Software, FCU Control Software, and Operation Panel Control Software.

### FPT\_TST.1

The TOE verifies the integrity of the Operation Panel Control Software during the initial start-up by comparing the hash value of the Operation Panel Control Software with the correct value or verifying the signature. If the obtained hash value does not match the correct value, or if the signature is not verified, the TOE will display an error message on the Operation Panel and will not accept the operation.

The TOE verifies the integrity of the MFP Control Software during the initial start-up by comparing the hash value with the correct value or verifying the signature. If the obtained hash value does not match the correct value, or if the signature is not verified, the TOE will display an error message on the Operation Panel and will not accept the operation. The hash-verified part of the MFP Control Software is verified, and then the integrity of the signature used for verifying the signature is verified. If the hash value obtained from the signature does not match the correct value, the TOE will display an error message on the Operation Panel and will not accept the operation. If the hash value obtained from the signature matches the correct value, the TOE will perform verification using the signature of the MFP Control Software. If the obtained hash value does not match the correct value, or if the signature is not verified, the TOE will display an error message on the Operation Panel and will not accept the operation.

If the hash values obtained in the Operation Panel Control Software and in the MFP Control Software match the correct values, and if the signature is verified, the TOE becomes available.

The TOE outputs the information used for integrity verification so that the integrity of the FCU Control Software can be verified. To check the integrity of the FCU Control Software, the information the TOE outputs will be compared with the information described in the guidance documents, so that the integrity of the FCU Control Software can be verified.

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## 7.9 Fax Line Separation Function

The Fax Line Separation Function is to restrict the input information from the telephone line to only fax reception and prohibit forwarding of received fax data in order to prevent unauthorised intrusion into the LAN from the telephone line.

### **FPT\_FDI\_EXP.1**

The TOE restricts the input information from the telephone line so that only fax data can be received. If any communication that does not comply with the fax protocol with the G3 standard is performed, the line is disconnected. Since the TOE is set to prohibit forwarding of received fax data when the TOE is installed, received fax data will not be forwarded.

## 8 Glossary

In this section, the meanings of specific terms used in this ST are defined below.

**Table 46 : Specific Terms Related to This ST**

| <b>Term</b>              | <b>Definition</b>                                                                                                                                                                                                                                                                                                                                                                                  |
|--------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Lockout                  | A type of behaviour to deny login of particular users.                                                                                                                                                                                                                                                                                                                                             |
| Auto Logout function     | A function for automatic user logout if no access is attempted from the Operation Panel or the WIM for the predetermined period of time. Also called Auto Logout.                                                                                                                                                                                                                                  |
| HDD                      | An abbreviation of hard disk drive. In this document, unless otherwise specified, "HDD" indicates the HDD installed on the TOE.                                                                                                                                                                                                                                                                    |
| Job                      | A sequence of operations of each TOE function (Copy Function, Scanner Function, Printer Function, Document Server Function, Fax Transmission Function, and Fax Reception Function) from beginning to end.                                                                                                                                                                                          |
| MFP application          | General term for Copy Function, Printer Function, Scanner Function, Fax Function, and Document Server Function enforcing F.CPY, F.PRT, F.SCN, F.FAX, and F.DSR.                                                                                                                                                                                                                                    |
| Copy Function            | One of the MFP applications. It enforces the SFR package functions for F.CPY and F.DSR.                                                                                                                                                                                                                                                                                                            |
| Scanner Function         | One of the MFP applications. It enforces the SFR package functions for F.SCN and F.DSR.                                                                                                                                                                                                                                                                                                            |
| Printer Function         | One of the MFP applications. It enforces the SFR package functions for F.PRT and F.DSR.                                                                                                                                                                                                                                                                                                            |
| Fax Function             | One of the MFP applications. It enforces the SFR package functions for F.FAX and F.DSR.                                                                                                                                                                                                                                                                                                            |
| Document Server Function | One of the MFP applications. It enforces the SFR package function for F.DSR.                                                                                                                                                                                                                                                                                                                       |
| Temporary saved document | The document data received from the printer driver by specifying the print method that is handled as temporary saving and temporarily saved in the TOE. The document data attribute corresponds to +PRT.                                                                                                                                                                                           |
| Stored print document    | Among the document data stored in the TOE, it refers to the document data that is received and stored by specifying the print method as stored print from the printer driver. The document data attribute corresponds to +DSR.                                                                                                                                                                     |
| Document Server document | Among the document data stored in the TOE, it refers to the document data that is stored in the TOE after scanning paper documents from the Operation Panel by using the Copy Function or the Document Server Function, and the document data that is received from the printer driver by specifying the print method as Document Server storage. The document data attribute corresponds to +DSR. |
| Scanned document         | Among the document data stored in the TOE, it refers to the document data that is stored after scanning paper documents from the Operation Panel by using the Scanner Function. The document data attribute corresponds to +DSR.                                                                                                                                                                   |

| Term                               | Definition                                                                                                                                                                                                                                                                                                                                                                                 |
|------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Fax transmission document          | Among the document data stored in the TOE, it refers to the document data that is stored after scanning paper documents from the Operation Panel by using the Fax Function, and the document data that is received and stored from the fax driver. The document data attribute corresponds to +DSR.                                                                                        |
| Fax reception document             | Among the document data stored in the TOE, it refers to the document data that is received from the external fax via a telephone line and stored in the TOE. The document data attribute corresponds to +DSR.                                                                                                                                                                              |
| Stored Reception File User         | A list that is set with the owner information (the login user names) of fax reception documents.<br>There is one list for all fax reception documents.                                                                                                                                                                                                                                     |
| Operation Panel                    | A unit that consists of a LCD touch screen and key switches. The Operation Panel is used by users to operate the TOE.                                                                                                                                                                                                                                                                      |
| Folder transmission                | A function that scans paper documents from the Operation Panel by using the Scanner Function and then sends scanned image data or stored scanned document from the MFP via networks to a shared folder in an SMB server by using SMB protocol, or sends document data to a folder in an FTP server by using FTP protocol.<br>IPsec protects the communication for enforcing this function. |
| E-mail transmission of attachments | A function that scans paper documents from the Operation Panel by using the Scanner Function and then sends scanned image data or the stored scanned document in e-mail format. S/MIME protects the communication for enforcing this function.                                                                                                                                             |
| ADF                                | An Automatic Document Feeder used as a Document Feed Unit. It feeds the originals set on the device one by one to the exposure glass.                                                                                                                                                                                                                                                      |
| SPDF                               | A type of Auto Document Feeder (ADF). When scanning both sides of the original, both sides are scanned simultaneously.                                                                                                                                                                                                                                                                     |
| ARDF                               | A type of Auto Document Feeder (ADF). When scanning both sides of the original, the original is automatically flipped and scanned in order.                                                                                                                                                                                                                                                |
| TOE owner                          | An individual or organisation indirectly involved with the TOE and is responsible for protecting the TOE assets and establishing related security policies.                                                                                                                                                                                                                                |