



# EP-BB (Electronic Partnership Broad Band) Security White Paper

**21<sup>st</sup> June, 2021**

Version 2.1.10

# Document Revision

| Document Version | Key Updates                                                                                                    | Date                        |
|------------------|----------------------------------------------------------------------------------------------------------------|-----------------------------|
| Version 2.0      | Consolidation of all Version 1.xx documentation, combination of all product types into a single document, etc. | 22 <sup>nd</sup> Feb 2019   |
| Version 2.0.1    | Clarified technical specifications                                                                             | 25 <sup>th</sup> Feb 2020   |
| Version 2.1.0    | Add the description for Secure Device Tool                                                                     | 29 <sup>th</sup> June 2020  |
| Version 2.1.1    | Modify the he description for Secure Device Tool                                                               | 12 <sup>th</sup> July 2020  |
| Version 2.1.2    | Added TLS version                                                                                              | 26 <sup>th</sup> Aug 2020   |
| Version 2.1.3    | Changed SSL to TLS. Add TLS version to SDT.                                                                    | 31 <sup>th</sup> Aug 2020   |
| Version 2.1.4    | Unified font type                                                                                              | 1 <sup>st</sup> Sept 2020   |
| Version 2.1.5    | Corrected the service name to EP-BB light.                                                                     | 30 <sup>th</sup> Sept. 2020 |
| Version 2.1.6    | Removed duplicate expressions on the document creation date                                                    | 7 <sup>th</sup> Oct. 2020   |
| Version 2.1.7    | Correction of description due to system specification change                                                   | 14 <sup>th</sup> Dec. 2020  |
| Version 2.1.8    | Modified URLs to Fujifilm domain                                                                               | 4 <sup>th</sup> June 2021   |
| Version 2.1.9    | Deleted information on products which support period has expired                                               | 11 <sup>th</sup> June 2021  |
| Version 2.1.10   | Change the debug log data size(13,312Kbyte)                                                                    | 21 <sup>th</sup> June 2021  |

# Document Non-Disclosure

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# Introduction

Electronic Partnership Broad Band ('EP-BB') is a Remote Service developed by FB for FUJIFILM Business Innovation Devices.

This document aims to explain EP-BB capabilities to users and administrators of FUJIFILM Business Innovation devices and a customer environment.

Specific focus is on the network specifications and data transmission, as well as high level detail of how that data is consumed by a range of value adding services.

## Objectives and Scope:

EP-BB is intended to enhance service and support capabilities with the intention of increasing device up time, productivity, and reliability.

Features of EP-BB cover all FB's product classes (Printers, Multi-Function Devices, Production Printers, etc.) however they do vary depending on the device and its capabilities.

The focus of this document is on the network specification of EP-BB, devices connecting to EP-BB, and the network infrastructure required to enable EP-BB.

EP-BB services capability commenced in 2009 and features associated therewith have been incremental based on new and evolving technologies and device capabilities. As such detailed information on current device capability can be made available on request from a FB Sales representative.

EP-BB technology evolution means that the documentation supporting it is likely to be similarly changing and dynamic. As such it should be noted that because of this dynamic landscape... this document is Evergreen with content being changed or updated on a undetermined and unfixed periodic basis. To acquire the most current EP-BB security whitepaper document please contact your FB Sales representative.

## Definitions:

**EP-BB** – Electronic Partnership Broad Band

**EP** – Electronic Partnership

EP Centre – Core FB system responsible for incoming data and information from connected devices

**RS** – Remote Service

**Device** – the FB equipment connecting to EP-BB

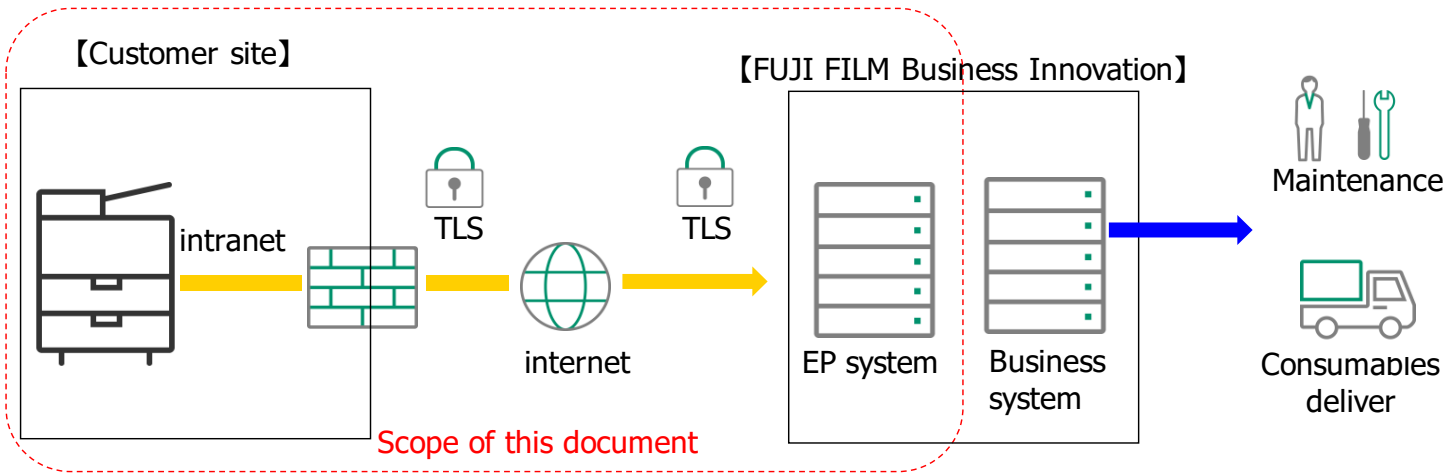
CSE – Customer Service Engineer

Backend Systems – FB infrastructure outside of the EP Centre that performs ancillary functions such as, but not limited to, contract management, billing and accounting, CSE dispatch, consumable delivery, quality control, etc.

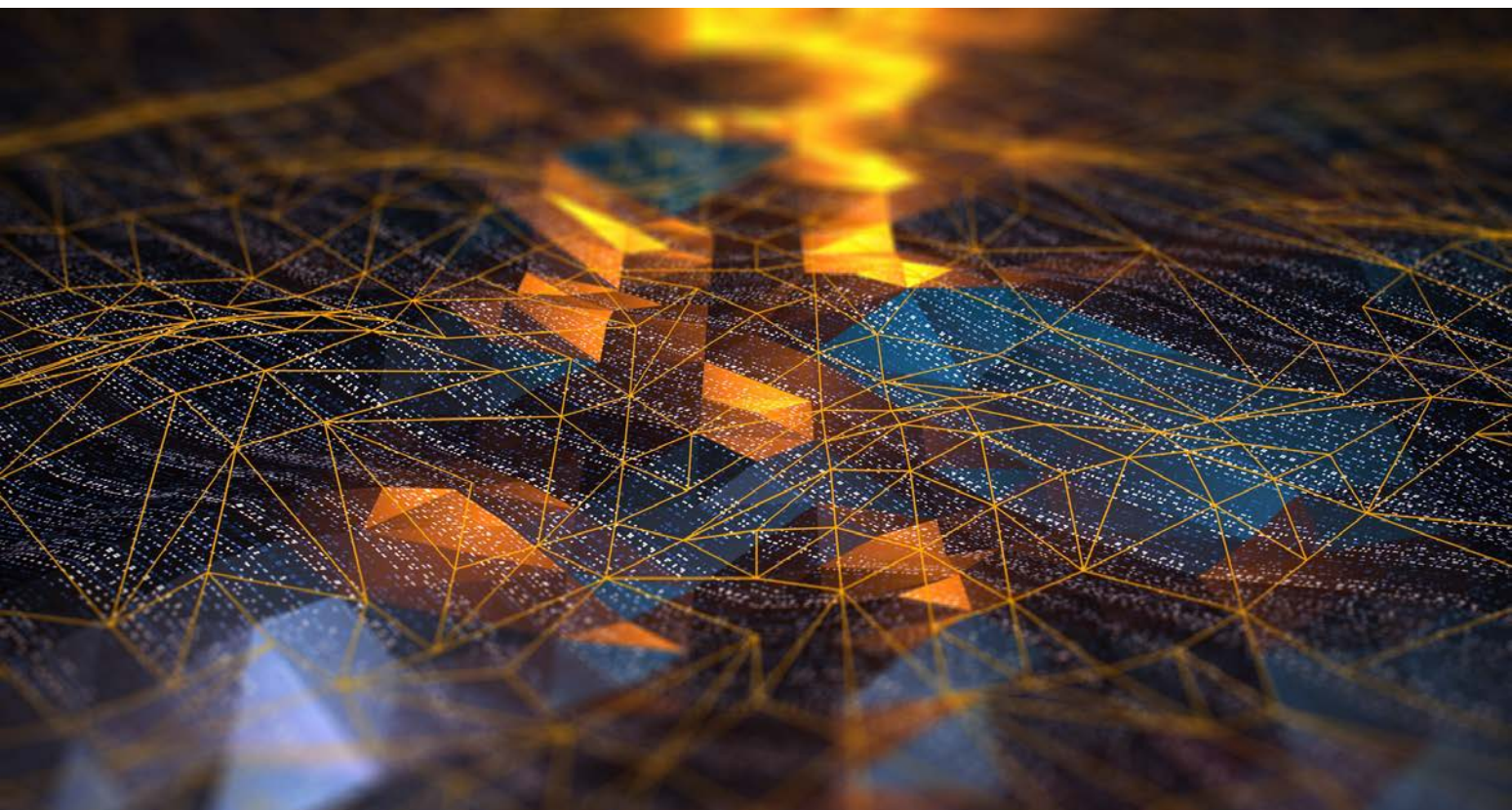
**CA – Certification Authority** (organization that publishes and manages encryption certificates)

**Device Alert** – Any fault condition occurring on the device that requires some kind of service interaction or intervention.(Applicable models Only)

**Consumable Alert** – A device message indicating that a replacement consumable (toner, waste toner bottle, etc.) is required



The EP-BB Security Whitepaper Document is intended to cover and address all interactions between an installed FB device, all necessary customer network infrastructure, and internet connectivity. FB business systems and processes are briefly discussed where appropriate however they are covered in limited detail. Continual development of EP-BB services and technologies allow FB to build and deliver value added services and tools that ensure our devices meet or exceed customer expectations.

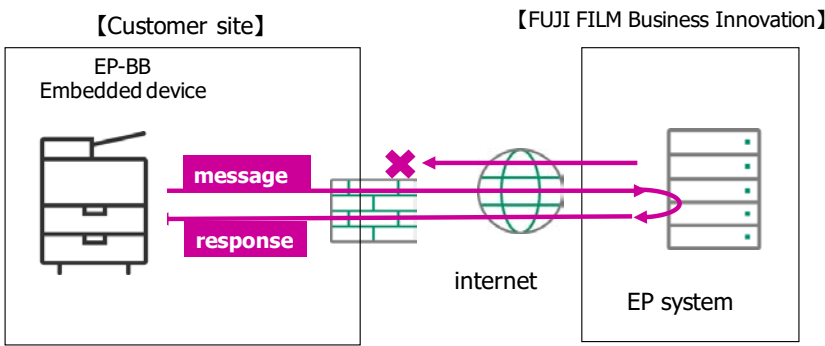




# 1.EP-BB Service Introduction

## Service Applicability

EP-BB has been designed and developed with the intent to enhance customer and FB interactions with connected devices via a secure internet connection. This document aims to make it easier for administrators of customers, who are reviewing or considering EP – BB enablement, to introduce EP-BB, including the tools and services associated with it, with confidence.



## 1.1 EP-BB Basic Functions

### 1.1.1 - Automatic Billing Functions (Automated Meter Reading)

This function automates the submission of billing meters to reduce the demand on customers to manually check device counters.

A meter report is sent from the device automatically with submission timing being set to a random time during the initial EP-BB configuration on the device.

The submission timing of device meter information is set to between 9:00 and 18:00 each day (local time).

Automatic Meter Reading consists of the following functions...

- a. Billing meter submission on monthly closing date  
EP Enabled devices will send the device meters on the monthly closing date as specified by the customer
- b. Billing meter submission daily  
EP devices send the billing meter once a day at randomly determined times between 9AM-6PM. FB may calculate the FSMA charge on recent 5 times' daily meter data when a device is unable to send the billing meter due to some kind of technical issue like a network communication problem.

- c. One-touch maintenance request service  
Customers can request onsite maintenance by pushing "Maintenance Request" button on the device User Interface. This service is used to request image quality problem resolution which can be difficult to analyse and resolve by using the device itself, or for preventive maintenance before a larger workload print job.
- d. Remote Diagnostic Service  
The device sends diagnostic data to the EP centre at the timing of daily billing meter sending and alert sending.



The EP centre then analyses the diagnostic data, in conjunction with a knowledge-based system, and offers a smart, and more accurate solution, for device maintenance.

Automatic Replacement of Periodic Parts Service (HFSI)  
EP-BB device detects the exchange timing of periodic replacement items and sends this information to the EP centre.

The EP center proactively arranges part change to avoid the device hard stop resulting from parts life end as well as extended down time when multiple items are due simultaneously.

**NOTE:**  
*Content of EP-BB device information Does Not include any user information, customer document information, scanned or printed images.*

1.1.4 – Feature Usage & Environmental Reporting (Green Report)

This information reflects the usage patterns of the device and allows customers to fully optimise all product capabilities and features.

This report is sent from the device once a month as a total value and does not reflect daily usage details. This report is available to the customer via the appropriate customer accessible portal once completed, in the FBAP case – Fuji film BI Direct.

Key points regarding the Feature Usage counter include...

Feature Usage counter contents are function-specific total counter information. (Copy, Print, Fax, Scanned images, User ID, document names, registered user information are not

included in this data.)

Feature Usage counters are different from billing meter information., Function counters are resettable by the Key operator. In order to effectively use the Environmental Reporting function, the Feature Usage counter should NOT be reset

Feature Usage counters on the device may be lost when the device experiences some hardware trouble, or a significant Firmware version-up occurs.

For more information Contact a FB sales person about Environmental Reporting.

1.2 Remote Firmware Upgrade

The Firmware Upgrade button on the device UI enables the device to immediately retrieve the latest firmware from the firmware download server, and install it without any service interaction.

1.3 Scheduled Firmware Upgrade

This function allows an FB operator to set a firmware upgrade request against a desired date and time on the EP server which then enables a device to action the request and execute at the specified date and time.

1.4 NVM Read/Write

NVM Read/Write is typically limited to interaction at the device by a Key Operator or a CSE. EP-BB allows an FB operator to set an NVM read or write request on the EP server and at the next device polling interval the device reads the pending request and executes an NVM read or write, then reports the result to EP server.



## 2. Device Interactions with EP-BB

This chapter describes the interactions between EP-BB enabled devices relative to EP function – how does EP communication work.

### 2.1 EP Communication Function

All device communication functions are incorporated in the device for capable devices. Depending on the device type the function can be embedded in the device controller, or as a software module on a connecting PC, for provision of EP functions.

Communication with the EP center is performed via the LAN port on the controller board or connected PC. Image information (printed, copied, or otherwise) is not included in the communication between an EP connected device and the EP center.

### 2.2 Memory and Image Data Handling

For hard disk equipped devices, all image data is stored on the hard disk. EP data is stored in Non Volatile Memory (NVM) of the device.

For devices without a hard disk NVM is used to store the address book and temporary image data used during device functions. These functions can include copy, fax, print and scan. NVM is also used to store EP data, but in a separate logical area, and again, it is important to clarify that no image data is transmitted to the EP Centre from the device.

### 2.3 EP Client Type Overview

There are 4 types of EP Client type that enable the EP-BB service on a wide variety of devices.

#### 2.3.1 EP-BB Native Features

EP-BB Native, or EP Native, devices have the ability to communicate with EP-BB server directly at the device.

EP-BB capable devices communicate with the EP center directly through hardware and software functions that are embedded in the device.

EP-BB communication is handled by the embedded device firmware, and sent and received through LAN port of device.

While the connection is the same, there are some small functional differences between different FB devices (Color 1000/800/1000i Press and Iridesse Production Press).

These devices use a software module installed on the PCUI to communicate with EP-BB. Data is retrieved from the device using other installed software modules on the PCUI that function in concert with the device and pass relevant data to the EP-BB module for communication to the EP Server.

#### 2.3.2 EP-BB light Features

EP-BB light is another implementation from EP-BB Native using light weight protocol.

The functionality of EP-BB light is smaller than EP-BB native.

This type of devices has the ability to communicate with the EP-Gateway server, which then the EP-Gateway server transfers data to EP server.

#### 2.3.3 Meter Collection Tool

The Meter Collection Tool (MCT) enables devices to communicate the same way as an EP-BB light device. The MCT reads only meter count information from a device with SNMP, converts the information to the appropriate data format, and sends it to EP-BB light server.



2.4 Functional Difference between EP Client Types

The following table outlines the key differences between the 4 EP-BB client types.

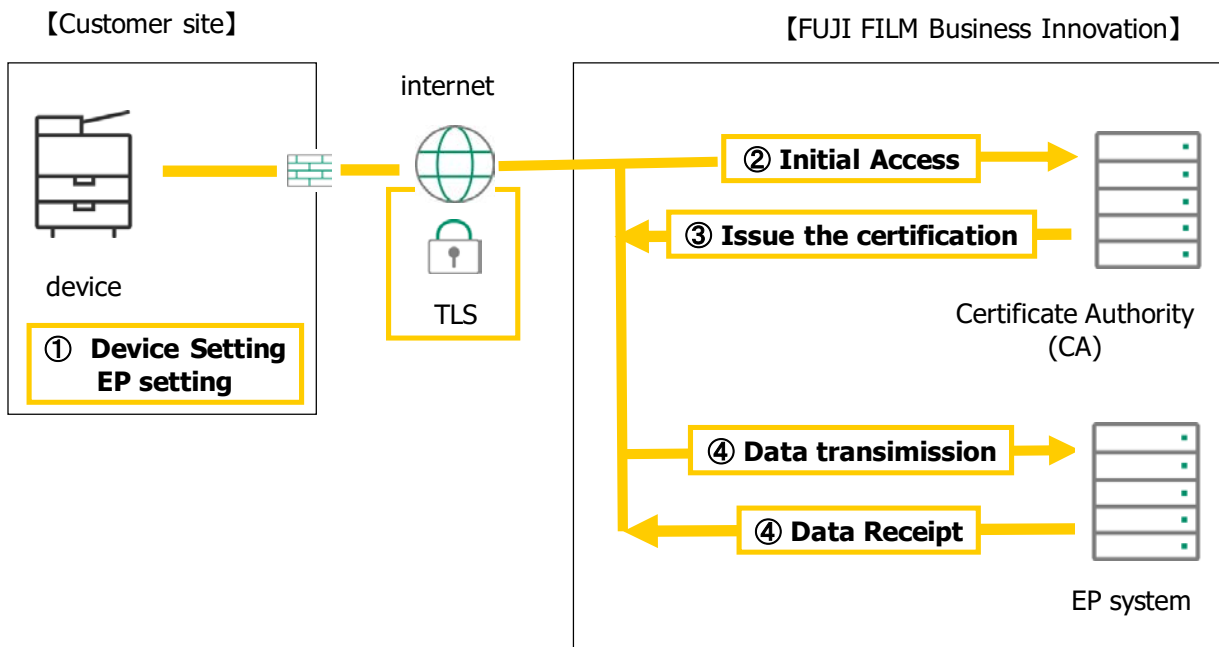
| Function name                           | EP-BB native | EP-BB light | MCT         |
|-----------------------------------------|--------------|-------------|-------------|
| Automatic Billing Function              | Supported    | Supported   | Supported   |
| Consumable Alert Notification           | Supported    | Supported   | Unsupported |
| Device Fault Alert Notification         | Supported    | Unsupported | Unsupported |
| Feature Usage & Environmental Reporting | Supported    | Unsupported | Unsupported |
| Diagnostics                             | Supported    | Supported   | Unsupported |
| Engineering                             | Supported    | Unsupported | Unsupported |
| Remote Firmware Upgrade                 | Supported    | Unsupported | Unsupported |
| Schedule Firmware Upgrade               | Supported    | Unsupported | Unsupported |
| NVM Read/Write                          | Supported    | Unsupported | Unsupported |
| Production Remote Service               | Supported    | Unsupported | Unsupported |
| Device Log Service                      | Supported    | Unsupported | Unsupported |



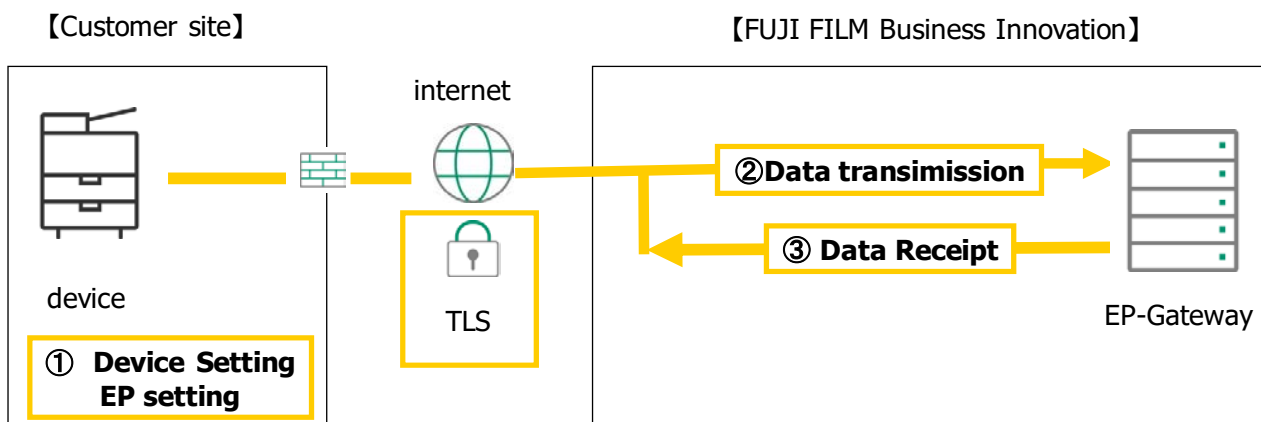
### 3. Overall System Architecture

EP-BB communication is always instigated from the device to the EP center, and activation of communication from the EP center to the device is not implemented.

In addition, when it is necessary to obtain EP-BB setting information from the EP center, the EP-BB device receives inbound data as the part of return value the EP centre is polled once a day by the device. Device polling communication occurs during events such as notification of occurrence of a failure from the EP-BB, consumable alerts, etc.



**EP-BB Architecture**



**EP-BB light Architecture**



3. Overall System Architecture continued

Communication Method

The device communicates with the EP center using SOAP over an encrypted HTTPS (TLS 1.2) <sup>(\*)1</sup> link to protect the data. The standard port 443/TCP is used in HTTPS communication and the port used cannot be altered. Only the device firmware is retrieved with 80/TCP, which again cannot be altered for this function.

The EP center is addressed by URL and requires DNS resolution on the customers' site.

The EP-BB device support basic authentication and NTLM authentication.

The EP-BB device (\*)1 selects basic authentication or NTLM authentication automatically and the EP-BB device (\*)2 supports automatic proxy server configuration and automatic detection (WPAD) with automatic configuration script (PAC file).

However... some devices do not support this function, and CSE has to set the IP address or FQDN of the customer proxy server manually.

<sup>\*1</sup> For products sold before 2010, you need to update to the latest version of firmware.

<sup>\*2</sup> NTLM authentication, automatic proxy server configuration, and automatic detection are not supported by models released before April 2010, as follows...

- ApeosPort-IV/DocuCentre-IV C5570/C4470/C3370/C2270 (released 21<sup>st</sup> July 2009),
- DocuCentre-IV C2260 (Released 25<sup>th</sup> November 2009),
- DocuPrint C3350 (Released 2<sup>nd</sup> April 2010),

...and products released previously, except EP-BB light devices.

NOTE:  
Content filtering by Proxy Server or TLS decryption by Enterprise Firewall

If HTTPS and HTTP standard ports are blocked by the customer's network, Content filtering to inspect EP communication by Proxy Server or Enabled TLS decryption by Enterprise Firewall to inspect the outbound traffic to internet, the EP communication between the customer network and the EP center is not established due to your security policy. If you have any security setting to inspect outbound traffic on this kind of security device, please make sure the security rules are set so as not interrupt EP communication.

Communication sequence

Communication is initiated daily by the device at a scheduled time between 9:00 and 18:00 (based on the time zone set on the device).

This time is randomly allocated during installation. Communication to the device cannot be initiated by the EP center.

Only consumable and device alerts will initiate real-time transmission to EP center.

Content, Frequency, and Size of outbound and inbound data

The EP-BB device and EP center are designed to handle data that is only EP-BB service related. The volume and the frequency of data transmitted to the EP center are described in the table below. (accurate as of November, 2017)

*Note: Communication cannot be initiated from the EP center. Any outbound communication is only in response to communication initiated by the device.*

Each EP-BB communication includes the header information including timestamp, product code, serial number to identify the data source.

EP-BB communication does not include customer information (company name, User information, document name, job name), information set by customer (Fax number, user ID), or information that can be estimated by the customer (IP address, proxy server name, FQDN).



3. Overall System Architecture continued

EP-BB enabled devices do not have the ability to send job data received from client PC, or image data created with COPY, FAX, Print jobs.

- Items in this notation are as of January 2019, and may be added / changed without advance notice.

EP Standard Features

| Activity                       | Data                                              | From   | To        | Frequency                                        | Data Fields                  | Size (Kb)    |            | EP Client Type |            |     | Note                                                                                                                                                                                                                                                                                                                                                                          |
|--------------------------------|---------------------------------------------------|--------|-----------|--------------------------------------------------|------------------------------|--------------|------------|----------------|------------|-----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                |                                                   |        |           |                                                  |                              | EP-BB Native | EP-BB Lite | EP-BB Native   | EP-BB Lite | MCT |                                                                                                                                                                                                                                                                                                                                                                               |
| Activation                     | Installation request                              | Device | EP center | Only at installation and cancellation            | Install request              | 10.0         | 2.0        | Yes            | Yes        | Yes | <b>(EP-BB Native)</b><br>At the initial installation, device gets the client certification from FB CA.<br>Then, the device starts the TLS handshake process.<br><b>(EP-BB light, MCT)</b><br>At the initial installation, client sends the unique digital ID to EP-gateway, then the client and EP-gateway communicate with the common encryption key create for each client. |
| Billing                        | Billing meters                                    | Device | EP center | Once per day                                     | Daily billing meters sending | 5.0          | 1.0        | Yes            | Yes        | Yes | Send billing meter every day.                                                                                                                                                                                                                                                                                                                                                 |
|                                | Monthly closing meters                            | Device | EP center | Monthly                                          | Monthly closing meters       | 4.1          | -          | Yes            | Yes        | Yes | EP-BB device will send monthly closing meters to EP center at the customer specified date and time.                                                                                                                                                                                                                                                                           |
| Automatic consumables delivery | Notification of consumable changing               | Device | EP center | After Replacing Consumables                      | Consumables information      | 5.5          | 1.2        | Yes            | Yes        | No  | EP-BB device notifies the consumable changing to EP center, FB carries out the replenishment delivery.                                                                                                                                                                                                                                                                        |
|                                | Notification of only consumables remaining        | Device | EP center | When the device detects the only a few remaining | Consumables information      | 5.5          | -          | Yes            | No         | No  | EP-BB device notifies toner near empty to EP center, FB carries out the replenishment delivery.                                                                                                                                                                                                                                                                               |
| Remote Maintenance ※1          | Diagnostics information                           | Device | EP center | Once per day                                     | Diagnostics information      | 116.0 (Max)  | 15.0       | Yes            | Yes        | No  | To perform and preventive maintenance of the fault location with wear situation of parts, error history                                                                                                                                                                                                                                                                       |
|                                | Failure notification                              | Device | EP center | After detecting failiure                         | Diagnostics information      | 116.0 (Max)  | -          | Yes            | No         | No  | EP-BB device notifies alert alter detecting failure, FB call back the customer or dispatch the CSE.                                                                                                                                                                                                                                                                           |
|                                | Key operator call                                 | Device | EP center | After KOC button pushed by customer              | Diagnostics information      | 116.0 (Max)  | -          | Yes            | No         | No  | When the customer pushes the KOC button, Device sends the diagnostic data to EP center.                                                                                                                                                                                                                                                                                       |
|                                | Notification of diagnosis request EP-BB           | Device | EP center | After diagnosis botton pushed                    | Diagnostics information      | 116.0 (Max)  | -          | Yes            | No         | No  | The EP-BB device send diagnostic data to Ep center when CSE pushes the diagnostic request button.                                                                                                                                                                                                                                                                             |
|                                | Debug log notification                            | Device | EP center | After detection debug log full                   | Debug log                    | 13,312 (Max) | -          | Yes            | No         | No  | To grasp the device status, perform a specific and preventive maintenance of the fault location.                                                                                                                                                                                                                                                                              |
|                                | Notification of device maintenance setting        | Device | EP center | On Demand                                        | Device maintenance setting   | 25.0 (Avg.)  | -          | Yes            | No         | No  | EP-BB device send device setting information for maintenance application, or notice the failure of changing device maintenance setting                                                                                                                                                                                                                                        |
| Operating status               | Device usage counter (※2)                         | Device | EP center | Monthly                                          | Device usage counter         | 32.0 (Max)   | -          | Yes            | No         | No  | EP-BB device sends the device usage counter to EP center.                                                                                                                                                                                                                                                                                                                     |
| Other                          | Device polling to EP center                       | Device | EP center | Daily                                            | Daily polling to Device EP   | 1.0          | 0.5        | Yes            | Yes        | Yes | Acquisition of request queue at EP center (See detail on "device service parameter"                                                                                                                                                                                                                                                                                           |
|                                | Notification of the device service parameter (※3) | Device | EP center | After the device service parameter has changed.  | Device service parameter     | 10.0         | -          | Yes            | No         | No  | EP-BB device send the device service parameter when it detects the parameter has changed.<br>The device service parameter includes the device configuration, FW V-Up information, and so on.                                                                                                                                                                                  |

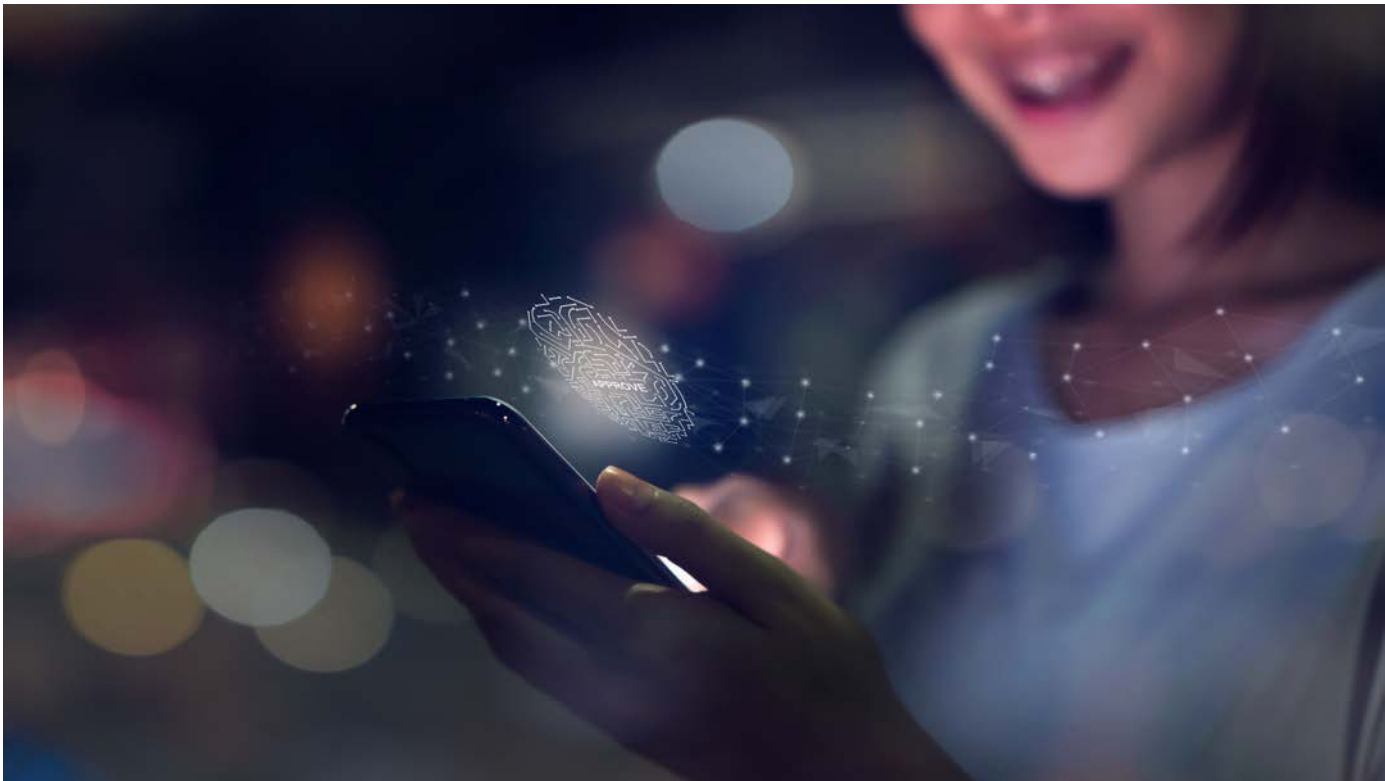
3. Overall System Architecture continued

| Activity                    | Data                                                                                 | From                                                                                           | To | Frequency                          | Data Fields                    | Size (Kb)              |            | EP Client Type |            |     | Note                                                                                                                                                                                           |
|-----------------------------|--------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|----|------------------------------------|--------------------------------|------------------------|------------|----------------|------------|-----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                             |                                                                                      |                                                                                                |    |                                    |                                | EP-BB Native           | EP-BB Lite | EP-BB Native   | EP-BB Lite | MCT |                                                                                                                                                                                                |
| Device service parameter ※4 | Acquisition of device service parameter (at EP-BB installation)                      | Device retrieves the device service parameter with return value of device access to EP center. |    | EP-BB installatin                  | Device service parameter       | 3.5                    | -          | Yes            | No         | No  | EP device retrieved the initial device service parameter decided on a contract                                                                                                                 |
|                             | information of notification function when the device service parameter change occurs |                                                                                                |    | On Demand                          | Device service parameter       | 4.0                    | -          | Yes            | No         | No  | Service parameter information. OFF / ON setting information of notification function when change occurs                                                                                        |
|                             | Acquisition of Monthly Closing information                                           |                                                                                                |    | On Demand                          | Monthly Closing information    | 1.6                    | -          | Yes            | No         | No  | Closing date and time information. FB business system adjust this parameter to avoid holiday.                                                                                                  |
|                             | Device Maintenance information                                                       |                                                                                                |    | Irregular                          | Device Maintenance information | 25.0 (Avg.)            | -          | Yes            | No         | No  | Cumulative occurrence count threshold for implementing a fault notification. Lifetime threshold of periodic replacement parts. Mechanical adjustment applications will change this information |
|                             | ※5 Device firmware Version UP (OPTIONAL)                                             |                                                                                                |    | KeyOperator, CE, Remote activation | Device firmware                | Approx. 550Mbyte (Max) | -          | Yes            | No         | No  | Update device firmware to newest one.                                                                                                                                                          |
|                             | Acquisition of the firmware update date and time (OPTIONAL)                          |                                                                                                |    | Irregular                          | Date and time                  | 2.0                    | -          | Yes            | No         | No  | Date and time information on firmware update                                                                                                                                                   |

### 3. Overall System Architecture continued

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>* Refer to appendix</p> <p>※1 - EP-BB communication does not include customer information (user information, document name, print data)</p> <p>※2 - EP Enabled device send the device usage counters to EP center depend on the service parameter setting. Device usage counter information includes</p> <p>1.) The number of used sheets by function (COPY/FAX/Printer/Scanner)</p> <p>2.) Output format (Both side/N-UP), etc.</p> <p>a. The device usage counter is not equal to billing meter.</p> <p>b. The device usage counters do not include user information (login user name, print file name.)</p> <ul style="list-style-type: none"><li>• Limitations on device usage counters</li></ul> <p>I.) EP device can't send the device usage counters when the data sending failed for any reason.</p> <p>II.) Key operator can reset the device usage counters., however reset should be avoided while using the FB green report service, as the outcome of Green Report data may be inaccurate.</p> <p>III.) The device usage counter may be cleared when the device usage counter function updates, or a bug fix is implemented.</p> <p>※3 - Notification of Device service parameter</p> <p>EP-BB device send the information required for EP-BB service. Device service parameter has three categories shown below.</p> | <p>Parameter setting in Multifunction devices. (Notify timing, Notify items, Monthly closing date and time)</p> <p>Configure information (Product code, Serial number, Firmware version, Option configuration etc.)</p> <p>Operation mode information (KO/CE identifier on Firmware update, CSE name of EP-BB installation etc.)</p> <p>※4 - Retrieving the device service parameter</p> <p>The device retrieves the device service parameter as a part of return value from the EP center. This means that the device starts accessing to the EP center, and the EP center server starts accessing the device.</p> <p>※5 - Device firmware Version up</p> <p>There are two type of firmware Version up service...</p> <p>Firmware Update Service - Key operator can update the device firmware without FB CSE visiting.</p> <p>Automatic firmware update service - device execution of firmware update automatically at specified date and time.</p> |
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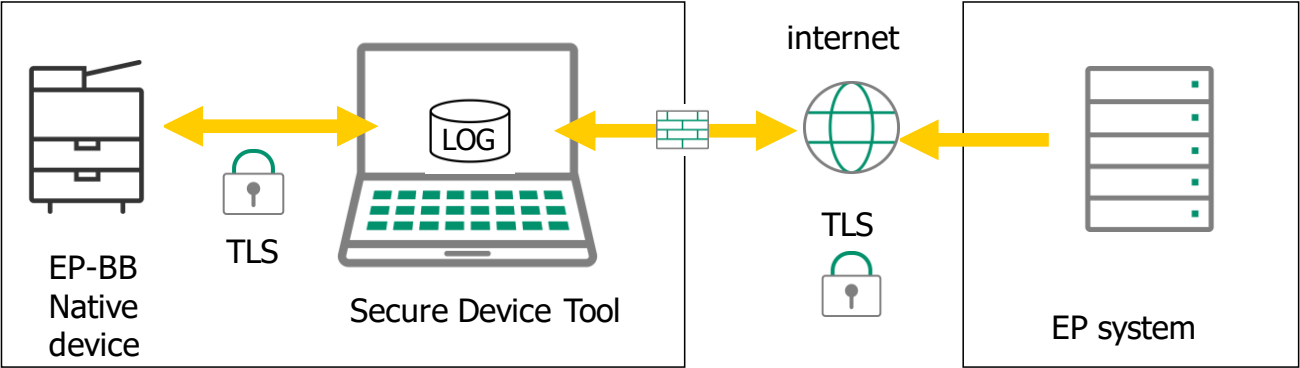
3.4. Secure Device Tool(option)

Secure Device Tool is the Windows OS-base application. This software can collect the EP-BB Native communication logs, and helps security audits by network administrators.

The Secure Device Tool decrypts the EP-BB communication from EP-BB Native device , extract and record the type of EP-BB communication, then encrypt the EP-BB communication using TLS 1.2 and send them to the EP system.

【Customer site】

【FUJIFILM Business Innovation】





## 4. EP-BB System Security

This chapter describes system security of the EP Centre and its management.

### Information Security Management of the EP Centre

FB is committed to information security. For details, please refer to the following URL on information security; [https://www.fujifilm.com/fb/eng/company/public/i\\_security](https://www.fujifilm.com/fb/eng/company/public/i_security).

FB is constantly working to improve security awareness for organizations and individuals by implementing security education for employees, implementing disciplinary punishment for security violators, and others.

As for these efforts, it is published as "FB Information Security Report". "FB Information Security Report" contains information that we deem appropriate to disclose to stakeholders so far as the information security effect is not hindered.

(Information security regulations are treated as confidential and are not disclosed.)

### Physical Protection of the EP Centre

FB EP server infrastructure is installed in an exclusive sphere, isolated physically in a data center.

Entry in the data center is limited to FB staff only.

Where entry is required by a third party prior written permission by FB is required and FB personnel will monitor all activities conducted by the third party.

### Logical Protection of the EP Centre

The EP center is on a network separated from the in-company network of FB and is connected with the Internet through a firewall.

All Communication, other than communication required through the port required for EP-BB communication is blocked to prevent illegal access.

Communication between customer devices and the EP center is encrypted by TLS to prevent eavesdropping on data transmission

Communication from the Internet to the EP center is limited to communication from our device using the EP-BB service, and is secured with high security by authenticating individual devices using the digital certificate issued by FB CA.

The digital certificate issued here is issued only to the FB device. It will not be issued to other clients. As a result, other clients cannot use this digital certificate to spoof and access the EP center.

When accessing the EP center from the FB in-house network for maintenance, etc., the EP center operator apply for issuing one-time password to the operation department and access the server system with that password.

In applying for one-time password issuance, approval by the system administrator is necessary, and only those who are responsible for maintenance activities can obtain it.

### Data Collection in the EP Centre

The data, which is sent from the device installed in a customer's environment, is stored in the EP center according to the following guidelines:

4.4.1 - To provide various EP services, the system processes collected data automatically. Collected data is transmitted automatically to the backend system.

4.4.2 - For device diagnostic investigation, only when required, the personnel in charge of operation or maintenance, who was given the right to access in advance, may peruse diagnostic data and its log.

4.4.3 - The collected diagnostic data and the logs are saved for three months, except for "feature counter" information, and deleted after that.

4.4.4 - To "report feature data and calculate a comparison to the previous year", the "feature counter information" is saved for a minimum of two years.

FB's privacy policy can be viewed at [https://www.fujifilm.com/fb/eng/common/privacy\\_policy](https://www.fujifilm.com/fb/eng/common/privacy_policy)

### Remote Firmware Upgrade and Scheduled Firmware Update Security

User Authentication

## 4. EP-BB System Security continued

All FB integrated authentication is used to access the firmware version up (FW V-UP) server. FW V-UP server administrator must register the operator ID to FW V-Up server.

### 4.5.2 Protection between FB Operator and the Firmware Version Up Server

The operator must use login name and password to login FW V-Up server. FW V-UP server allows accessing only from FB proxy server IP address. The device FW will send to the FW V-Up server with FTP(non-encryption).

### 4.5.3 Protection between the Device and the Firmware Version Up Server

1st step of FW V-UP process, the device receives the URL where the FW is stored, and Hash value calculated from the FW through EP-BB data communication path (protected with TLS).

2nd step, the device retrieves the FW from FW V-UP server with ftp (non-encryption), then the device calculates the hash value of the retrieved FW, and verifies it with 1st step Hash value.

3rd step: If the comparison of hash value is successful, the device starts FW V-Up.

## 4.6 Device Security

FB devices have acquired ISO/IEC 15408 for many products.

ISO/IEC 15408 provides independent, objective, validation of the reliability, quality, and trustworthiness of IT products.

It is the only international standard that customers can rely on to help them make informed decisions about their IT purchases.

Common Criteria sets specific information assurance goals including strict levels of integrity, confidentiality, and availability for systems and data, accountability at the individual level, and assurance that all goals are met.

Common Criteria Certification is a requirement of hardware and software devices used by many governments across Asia Pacific

Regarding unauthorized access attempting intrusion via the external IF possessed by devices such as LAN, the following evaluation is carried out within the company to confirm that there is no problem...

- Port scan on unnecessary port release from the device LAN port
- Unauthorized access attempt from USB port of device
- Unauthorized trial from the web browser of the system administrator client of the device
- Replacement of storage medium recording device setting data
- Illegal from web browser of general user client of device
- Non-secure communication when TLS or IPSec communication negotiation fails





## 5. Customer Responsibility

In order to utilize EP-BB, and all services associated with it, the device communicates with the EP center.

In addition, the device will access FB CA when doing the first communication to obtain the client certificate.

In Preparation for EP-BB installation customers are asked to...

Complete the EP-BB install parameter sheet and then send it to the FB sales person, or pass it to a CSE when they visit the customer site.

We ask that customer accommodate their network settings to allow for consistent and reliable communication of EP enabled devices and FB ( customer's network can reach FB EP center and CA).

When required the EP-BB callback operator will call the phone number written in the EP-BB install parameter sheet so please ensure that the correct number is recorded for the callback destination.

It is recommended not to turn-off the main power switch for EP enabled devices.

FB may not be able to provide the services described in this document when the daily EP-BB communication failed.

FB will call the Key Operator if EP-BB communication continues to fail for 8 consecutive days.



## 6. Independent Verification and Compliance

LAC (<https://www.lac.co.jp/english/>) corporation has carried out security inspection on the EP-BB service with ApeosPort-IV C5570 and ApeosPort-III C3300, in March 2011.



# 7. Conclusion

Through the above description, the security of the EP-BB service has been determined to sufficiently meet the needs of all internet and data transmission security requirements to ensure integrity of data and all information transacted between EP enabled devices and FB.



