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# Security White Paper for RICOH Smart Presenter

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1.0	March, 2013	1 <sup>st</sup> Release

<b>1. INTRODUCTION .....</b>	<b>4</b>
<b>2. SYSTEM .....</b>	<b>5</b>
2.1. INTERNET COMMUNICATION DIAGRAM .....	5
2.2. INTRANET COMMUNICATION DIAGRAM (PLANNED MEETINGS) .....	6
2.3. INTRANET COMMUNICATION DIAGRAM (CASUAL MEETINGS) .....	7
<b>3. DATA FLOW.....</b>	<b>8</b>
3.1. INTERNET COMMUNICATION DATA FLOW.....	8
3.2. INTRANET COMMUNICATION DATA FLOW (PLANNED MEETINGS).....	8
3.3. INTRANET COMMUNICATION DATA FLOW (CASUAL MEETING) .....	8
<b>4. PROTOCOLS AND PORTS .....</b>	<b>10</b>
4.1. ACTIVATION TOOL .....	10
4.2. PLANNED MEETINGS .....	10
4.3. CASUAL MEETINGS .....	10
<b>5. STORED DATA .....</b>	<b>12</b>
5.1 STORED DATA (RICOH SMART PRESENTER) .....	12
5.2 STORED DATA (RICOH CONFERENCE CENTER) .....	13

## 1. Introduction

RICOH Smart Presenter is a paperless meeting solution comprised of two components: the RICOH Conference Center and the RICOH Smart Presenter app. It allows tablet displays to be used for presentation document distribution without the need to print paper copies of the documents.

There are two usage options available: with or without RICOH Conference Center.

When using RICOH Conference Center, meeting information can be registered in advance, and meeting documents can be uploaded from any PC web browser. Meeting participants can easily join a meeting and access the uploaded meeting documents, as well as make, share, and export notes by using the RICOH Smart Presenter app.

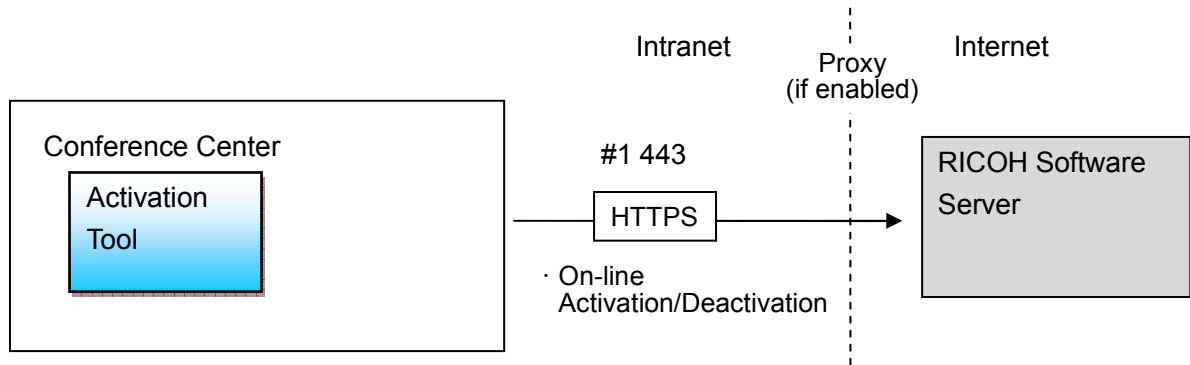
In addition, RICOH Smart Presenter can be displayed by using a wireless RICOH projector.

This document is designed to describe the product's functions with regards to network and data security. As Ricoh products are designed for use inside an intranet where network clients are protected by firewalls, they rely heavily on intranet security policies. This document focuses on providing the information necessary to protect against potential threats from external security risks and help customers to securely incorporate the Ricoh product into their system.

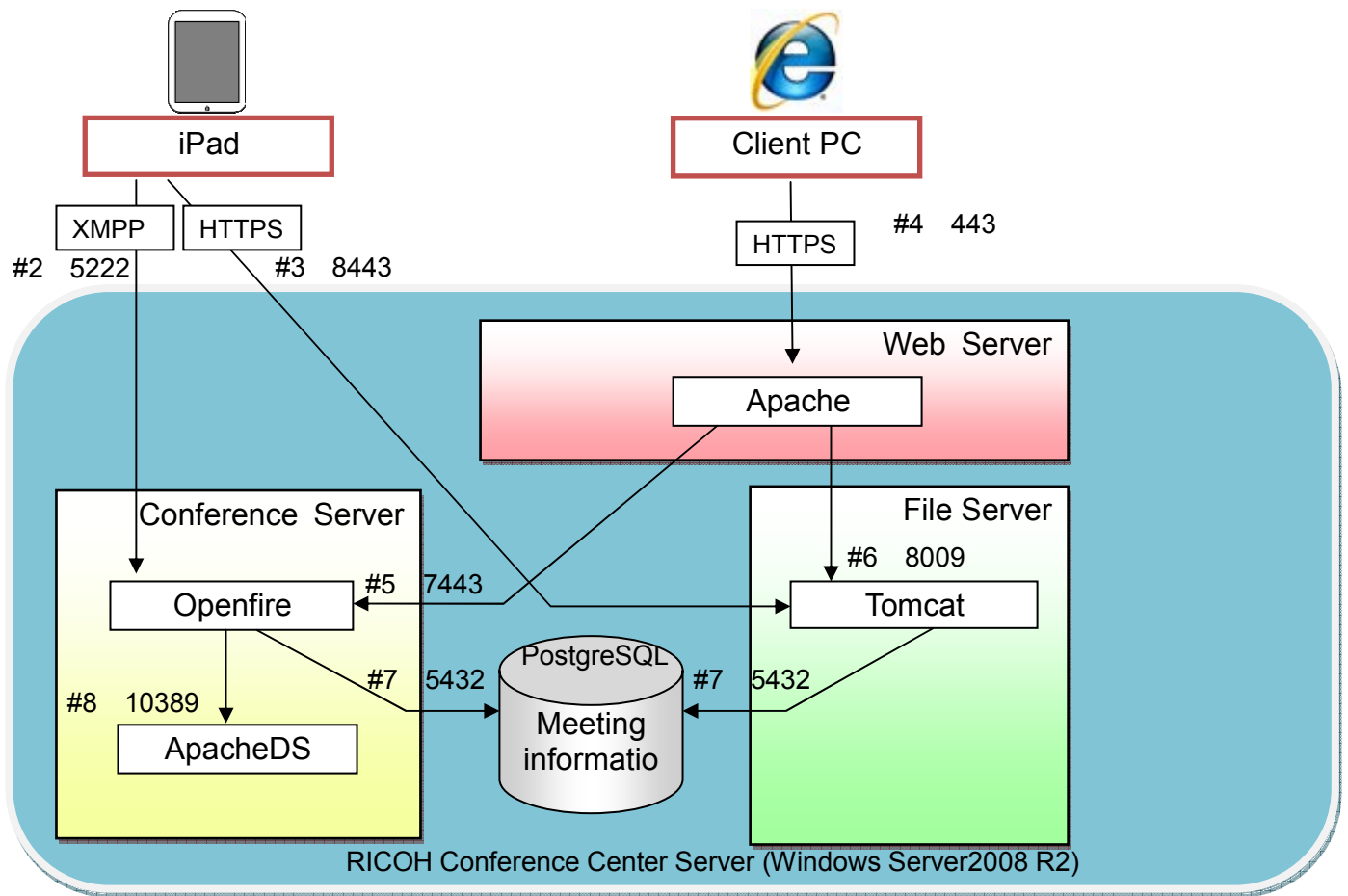
## 2. System

These diagrams show the general data flow for RICOH Smart Presenter.

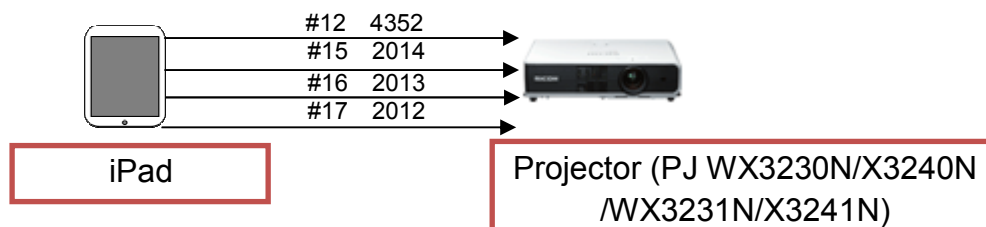
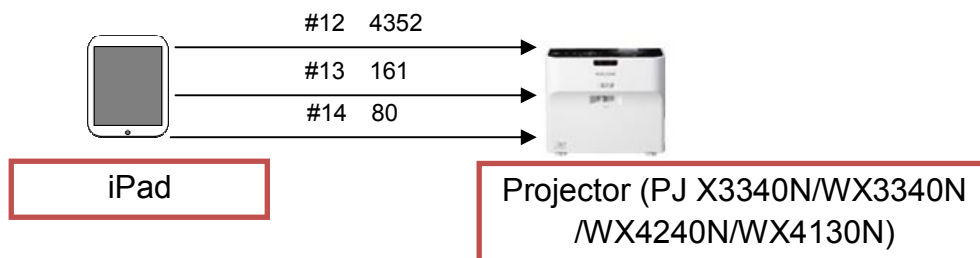
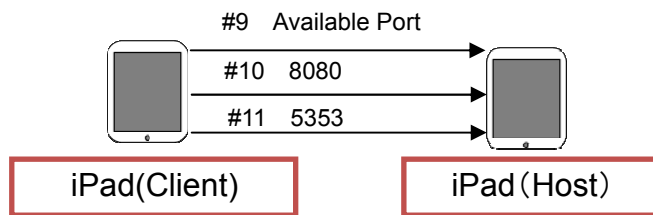
### 2.1. Internet Communication Diagram



## 2.2. Intranet Communication Diagram (Planned Meetings)



### 2.3. Intranet Communication Diagram (Casual Meetings)



### 3. Data Flow

#### 3.1. Internet Communication Data Flow

Data Flow	#	Functions	Data
RICOH Conference Center -> RICOH Software Server	1	Activation/Deactivation	Product Key, Lock Code, License File, Country Information

#### 3.2. Intranet Communication Data Flow (Planned Meetings)

[iPad -> RICOH Conference Center Server]

Data Flow	#	Functions	Data
iPad -> Conference server	2	Manage meetings.	Meeting list, meeting ID, password, shared page number, shared notes data.
iPad -> File server	3	Get meeting documents.	PDF files.

[Client PC -> RICOH Conference Center Server]

Data Flow	#	Functions	Data
Web browser -> Administrator tool, Conference Center (Meeting Management, Meeting list)	4	Manage planned meetings	Application used to manage, edit and reserves meetings.

[RICOH Conference Center Internal Communication]

Data Flow	#	Functions	Data
Web Server -> Conference Server	5	Control meeting information.	Meeting list, meeting ID, meeting information.
Web Server -> File Server	6	Control meeting documents.	Meeting documents.
Conference server, File Server -> PostgreSQL	7	Control meeting information.	Information to reserve/open/participate in meetings.
Conference server -> Apache DS	8	Control account information.	Account information.

#### 3.3. Intranet Communication Data Flow (Casual Meeting)

[iPad(Client) -> iPad(Host)]

Data Flow	#	Functions	Data
iPad(Client) -> iPad(Host)	9	Manage meetings.	Information to open/share information/exit/participate in meetings. Meeting ID, meeting password, shared page number, shared notes data, etc.
iPad(Client) ->	10	Get meeting	PDF files.



iPad(Host)		documents.	
iPad(Client) -> iPod(Host)	11	Get device name.	Meeting list, members list.

[iPad -> Projector]

<b>Data Flow</b>	<b>#</b>	<b>Functions</b>	<b>Data</b>
iPad -> Projector	12,13, 15,17	Set/get projector information	Projector settings. Keep data connection alive.
iPad -> Projector	14,16	Project to projector	Projection image data.

## 4. Protocols and Ports

### 4.1. Activation Tool

Activation/deactivation is internet-based, so this communication must pass through the proxy server, if one is in use.

#	Communication Path	Protocol	Port	Encryption	Notes
1	Confirm the request for Activation/Deactivation. (RICOH Conference Center -> Ricoh Software Server)	HTTPS	TCP/433	Y	If the port is set in [Proxy Settings], the set port will be used.

### 4.2. Planned Meetings

[iPad -> RICOH Conference Center Server]

#	Communication Path	Protocol	Port	Encryption	Notes
2	Access Conference Server from iPad.	XMPP	5222	Y	Received module: Openfire (Ver3.7.1)
3	Access meeting documents from iPad.	HTTPS	8443	Y	Received module: Tomcat (Ver7.0.27)

[Client PC -> RICOH Conference Center Server]

#	Communication Path	Protocol	Port	Encryption	Notes
4	Access Administrator tool, Conference Center (Meeting Management, Meeting list) from PCs.	HTTPS	433	Y	Received module: Apache (Ver2.2.22)

[RICOH Conference Center Internal Communication]

#	Communication Path	Protocol	Port	Encryption	Notes
5	Access Conference Server from Administrator tool or Conference Center (Meeting Management, Meeting list).	Bosh	7443	Y	Received module: Openfire (Ver3.7.1)
6	Access meeting documents from Administrator tool or Conference Center (Meeting Management, Meeting list).	Ajp	8009	N	Received module: Tomcat-Apache (Ver7.0.27)
7	Access DB from Conference Server and File server (Internal processing)	PostgreSQL	5432	N	Received module: PostgreSQL (Ver9.1.3-1)
8	Access LDAP server from Conference Server (Internal processing)	LDAP	10389	N	Received module: ApacheDS (Ver2.0.0-M7)

### 4.3. Casual Meetings

[iPad(Client) -> iPad(Host)]

#	Communication Path	Protocol	Port	Encryption	Notes
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9	iPad(Client) -> iPad(Host)	XMPP	49152~65535 (Available ports)	N	Access HostController
10	iPad(Client) -> iPad(Host)	HTTP	8080	N	Access WebDAV
11	iPad(Client) -> iPad(Host)	UDP	5353	N	Bonjour

## [iPad -&gt; Projector]

#	Communication Path	Protocol	Port	Encryption	Notes
12	iPad -> Projector	PjLink	4352	N	Pjlink (Projector)
13	iPad -> Projector	SNMP	161	N	MIB (PJ X3340N/WX3340N/WX4240N/WX4130N)
14	iPad -> Projector	HTTP	80	N	Projection (PJ X3340N/WX3340N/WX4240N/WX4130N)
15	iPad -> Projector	TCP	2014	N	Get information (PJ WX3230N/X3240N/WX3231N/X3241N)
16	iPad -> Projector	TCP	2013	N	Projection (PJ WX3230N/X3240N/WX3231N/X3241N)
17	iPad -> Projector	UDP	2012	N	Keep-alive (PJ WX3230N/X3240N/WX3231N/X3241N)

## 5. Stored Data

### 5.1 Stored Data (RICOH Smart Presenter)

Data	Item	Security Note
RoomServices	Access Control	None.
	Encryption	Not encrypted.
	Back up	None.
	Log Entry	None.
	Remarks	The data of meeting list and restoration. A planned meeting password is included. Access to the data can only be made via the application. [File Path] <Application_Home>/RoomData/
ConferenceData	Access Control	None.
	Encryption	Not encrypted.
	Back-up	None.
	Log Entry	None.
	Remarks	The meeting data of a held meeting. ConferenceData is deleted when a user exits a meeting. If the application crashes, ConferenceData is retained and restored when the application is restarted.
Meeting Documents (temp)	Access Control	None.
	Encryption	Not encrypted.
	Back-up	None.
	Log Entry	None.
	Remarks	[File Path] - Downloaded meeting documents (PDF): <Application_Home>/tmp/ConferenceData/<meetingID>/documents/ - thumbnail png: <Application_Home>/tmp/ This data is deleted when a user exits a meeting. If the application crashes, this data is retained and restored when the application is restarted.
Meeting Documents (data)	Access Control	None.
	Encryption	Not encrypted.
	Back-up	None.
	Log Entry	None.
	Remarks	[File Path] <Application_Home>/Documents/ Documents added when preparing a casual meeting and added during an active meeting. It can be added via Safari or iTunes. It can be added and deleted by users.
ServerSetting	Access Control	None
	Encryption	Not encrypted.
	Back-up	None.
	Log Entry	None.

	Remarks	The address and name of Conference Center server. This data is retained if the application is shut down.
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## 5.2 Stored Data (RICOH Conference Center)

Data	Item	Security Note
Meeting Data (Stored PostgreSQL)	Access Control	A fixed PostgreSQL Administrator Account/Password is used to access the PostgreSQL. The DB is protected by a password.
	Encryption	Not encrypted.
	Back-up	None.
	Log Entry	None.
	Remarks	Data for planned meetings. It will be deleted when the meeting is deleted.
Meeting Documents (Office) (Stored windows file system)	Access Control	Any Conference Center server user account.
	Encryption	Not encrypted. Obfuscated by changing extension.
	Back-up	None.
	Log Entry	None.
	Remarks	It will be deleted when the meeting is deleted.
Meeting Documents (PDF) (Stored windows file system)	Access Control	Any Conference Center server user account.
	Encryption	Not encrypted. Obfuscated by changing extension.
	Back-up	None.
	Log Entry	None.
	Remarks	It will be deleted when the meeting is deleted.
Administrator tool account information	Access Control	A fixed Account/Password of ApacheDS is used to access the ApacheDS. The data is protected by a password.
	Encryption	The password is encrypted.
	Back-up	None.
	Log Entry	None.
	Remarks	None.
Activation Data	Access Control	Any Conference Center server user account.
	Encryption	The files are not encrypted. <ul style="list-style-type: none"> <li>- License Code file: Encrypted license code is recorded.</li> <li>- Deactivation information file: Encrypted license code is recorded.</li> <li>- Activation Tool settings file: The password of the Proxy authentication is encrypted. Others are not encrypted.</li> </ul>
	Back-up	None.
	Log Entry	None.
	Remarks	None.
Log	Access Control	Any Conference Center server user account.
	Encryption	Not encrypted.
	Back-up	None.
	Log Entry	None.

	Remarks	<p>The creation of log files is rotated according to fixed counts and the number of log files.</p> <p>PostgreSQL and Apache log files are rotated, but the number of files that can be created is unlimited.</p> <p>[File Path]</p> <ul style="list-style-type: none"> <li>- Apache: &lt;install folder&gt;%Log%Apache%</li> <li>- ApacheDS: &lt;install folder&gt;%Log%ApacheDS%</li> <li>- Openfire: &lt;install folder&gt;%Log%Openfire%</li> <li>- PostgreSQL: &lt;install folder&gt;%Log%PostgreSQL%</li> <li>- Tomcat: &lt;install folder&gt;%Log%Tomcat%</li> <li>- Stop/Start service script: &lt;install folder&gt;%Log%Tools%</li> <li>- Activation Tool: &lt;install folder&gt;%Log%Tools%ActivationTool%</li> <li>- Installer: &lt;install folder&gt;%Log%IS%</li> </ul>
Certificates	Access Control	Any Conference Center server user account.
	Encryption	All files are encrypted.
	Back-up	None.
	Log Entry	None.
	Remarks	<p>[File Path]</p> <ul style="list-style-type: none"> <li>- Apache: &lt;System drive&gt;%Program Files (x86)%RICOH\RICOH Conference Center%Apache Software Foundation%Apache2.2%conf%ssl.key</li> <li>- &lt;System drive&gt;%Program Files (x86)%RICOH\RICOH Conference Center%Apache Software Foundation%Apache2.2%conf%ssl.crt</li> <li>- Openfire: &lt;System drive&gt;%Program Files (x86)%RICOH\RICOH Conference Center%openfire%resources%security</li> <li>- Tomcat: &lt;install folder&gt;%Apache Software Foundation%Tomcat 7.0%conf%</li> </ul>