Security Guide

Xerox® Quick Link App

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Contents

1. Introduction

Purpose

The purpose of the Security Guide is to disclose information for Xerox® Apps with respect to device security. Device security, in this context, is defined as how data is stored and transmitted, how the product behaves in a networked environment, and how the product may be accessed, both locally and remotely. This document describes design, functions, and features of the Xerox® Apps relative to Information Assurance (IA) and the protection of customer sensitive information. Please note that the customer is responsible for the security of their network and the Xerox® Apps do not establish security for any network environment.

This document does not provide tutorial level information about security, connectivity or Xerox® App features and functions. This information is readily available elsewhere. We assume that the reader has a working knowledge of these types of topics.

Target Audience

The target audience for this document is Xerox field personnel and customers concerned with IT security. It is assumed that the reader is familiar with the apps; as such, some user actions are not described in detail.

Disclaimer

The content of this document is provided for information purposes only. Performance of the products referenced herein is exclusively subject to the applicable Xerox® Corporation terms and conditions of sale and/or lease. Nothing stated in this document constitutes the establishment of any additional agreement or binding obligations between Xerox® Corporation and any third party.

2. Product Description

Overview

CONNECTKEY APP

The Xerox® Quick Link App consists of two primary workflows. The workflows supported connect a user's desktop, laptop, or mobile device to a Xerox printer. User's may:

- Connect a Windows or Apple computer to a Xerox printer
- Connect an Android or iOS mobile device to a Xerox printer

Completing a workflow involves a combination of the following aspects described in detail below.

- App Hosting
- App Startup
- Install printer connectivity software
- Establish a connection from the user's target device to the Xerox printer

The Xerox® App is compatible with Xerox printers when the Xerox Extensible Interface Platform® version 3.5.0 or higher is enabled.

CONNECTING A WINDOWS OR APPLE COMPUTER

The Xerox® App allows a user to easily connect their Windows or Mac computer to a specific printer. At a Xerox printer, the user can simply launch the app on the local UI of the device and select the Computer workflow. The app will prompt the user for their email address and send the user an email with the appropriate links and instructions to install and connect.

When the user opens the email and clicks the appropriate link (Windows or Mac), the app will download the correct Xerox print driver installer. In the case of Windows, the installer will be pre-configured to connect to the specific printer. In the case of Mac, the user will need to enter the IP address of the printer using the installer type-in field.

CONNECTING AN ANDROID OR IOS MOBILE DEVICE

At a Xerox printer, the user can simply launch the app on the local UI of the device and select the appropriate mobile workflow (Android or iOS). The app will then display QR codes that can be used to 1) optionally install Xerox® Workplace from the corresponding mobile app store if the user does not already have it on their mobile device, and 2) automatically add the printer to the user's Printers list in Xerox® Workplace.

App Hosting

The Xerox® App depends heavily on cloud hosted components. A brief description of each can be found below.

Xerox® Quick Link App

The Xerox® App consists of two key components, the device weblet and the cloud-hosted web service. The device weblet is a ConnectKey/EIP web app that enables the following behavior on a Xerox® Device:

- Presents the user with an application UI that executes functionality in the cloud.
- Interfaces with the EIP API, which delegates work, such as querying device details and initiating a scan.

The weblet communicates with the cloud-hosted web service, which executes the business logic associated with the app.

Send Email Service Middleware

The web tier component hosting the app communicates directly with a Send Email service, which securely facilitates submitting the email to SendGrid on Azure over SMTP/TLS.

Xerox Extensible Interface Platform®

During standard usage of the Xerox® App, calls to the device web services are used to initiate and monitor device discovery functions that pull relevant details related to device properties and capabilities.

Components

MFD with Xerox® Quick Link App – ConnectKey App

This is an EIP capable device that can print, scan and execute ConnectKey Apps installed from the Xerox App Gallery. In this case, the device has the Xerox® Quick Link App installed.

Xerox App Gallery

The App Gallery component is a web application, with services, hosted on the Microsoft Azure Cloud System. The App Gallery is accessed to ensure the Application is entitled to run and is used when upgrading the App whenever the auto-update conditions apply.

Xerox® Quick Link App Web UI

The Web UI component is a service hosted on the Microsoft Azure Cloud System. The Web UI component is responsible for hosting the web pages, which display on the UI of the printer.

Xerox® Quick Link App – Service Interface

The Service Interface component is a service hosted on the Microsoft Azure Cloud System. The Service Interface provides the business logic service and interfaces with the Send Email Service Middleware.

Send Email Service Middleware

The Send Email Service Middleware component is a service hosted on the Microsoft Azure Cloud System, which interfaces with the SendGrid on Azure connector on the App's behalf.

SendGrid on Azure Connector

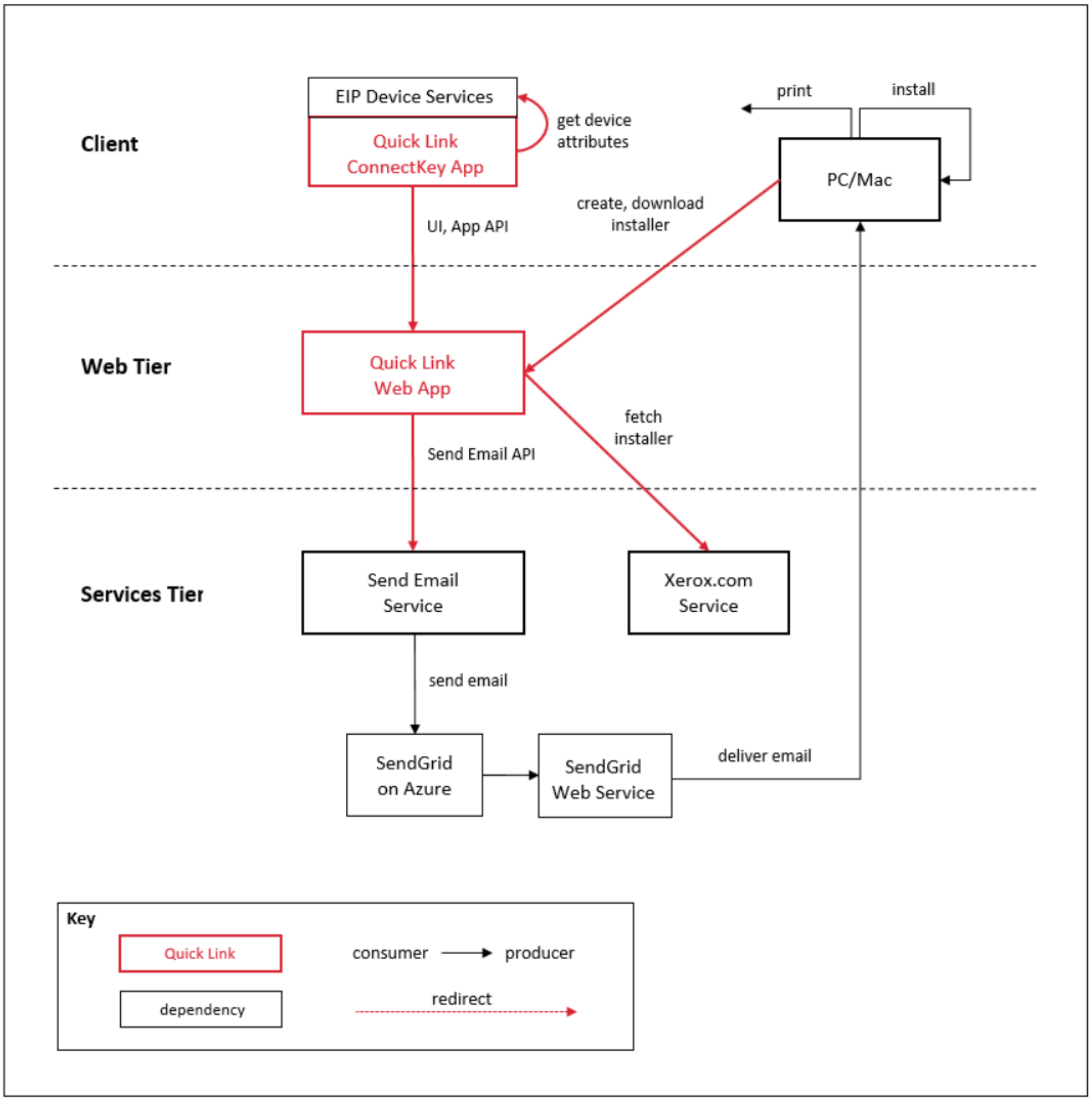
SendGrid on Azure is a global, custom-built Mail Transfer Agent architected for the cloud and supported by a redundant, self-hosted datacenter infrastructure.

SendGrid Service

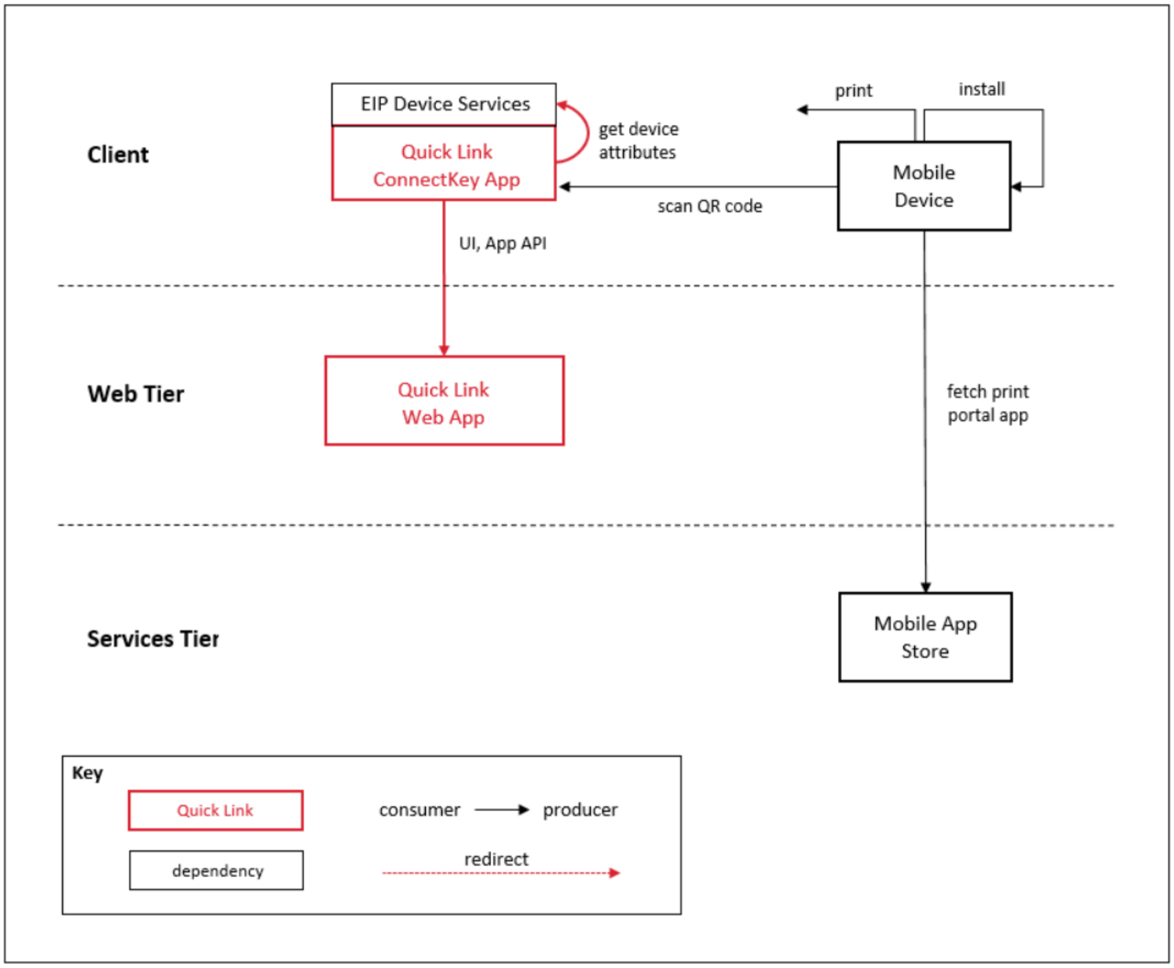
SendGrid is a cloud-based email service that provides reliable transactional email delivery, scalability.

Architecture

ARCHITECTURE DIAGRAM: WINDOWS OR MAC



ARCHITECTURE DIAGRAM: MOBILE



Workflows

DEVICE AUTHENTICATION

Device login: Prior to starting the Xerox® Quick Link App, users may sign-in at the MFD using their networks credentials.

The device login interaction is confined to the device login workflow, and the credential values provided are not interrogated by the Xerox® Quick Link App.

APP STARTUP

During startup of the Xerox® Quick Link App, the main page initialization script may call the App Gallery API to get the app installation's entitlements.

Once entitlements are verified, the main page initialization script executes local HTTP calls to device EIP web services in order to obtain relevant details associated with the device and its capabilities (i.e. Device Serial Number, MAC Address, device generation etc.).

During app initialization, the EIP browser runs the HTML and JavaScript delivered to the device, which renders the App UI content retrieved from app endpoints hosted in the Azure App Service.

INSTALL PRINTER CONNECTIVITY SOFTWARE

When connecting to a printer using a Windows or Mac device, the Xerox® Quick Link App sends a download link to the email address provided by the user. That link can be used to install the device specific print drivers needed for printing.

When connecting to a printer using a mobile device, the user may install Xerox® Workplace on their mobile device from the mobile device's app store.

ESTABLISH A CONNECTION FROM THE USER'S TARGET DEVICE TO THE PRINTER

When printing from a Windows or Mac device, a print job is sent to the printer using a network connection that is established using the installed print driver.

When printing from a mobile device, a print job is sent to the printer using a network connection that is established using the installed Xerox® Workplace mobile app.

User Data Protection

APPLICATION DATA STORED IN THE XEROX CLOUD

No data is stored in the cloud hosted environment.

LOCAL ENVIRONMENT

Application data transmitted

Application data related to the categories below are transmitted to/from the Xerox® Device.

- Device data
- Email data

Application data stored on the Xerox® Device

No data is stored on the Xerox® Device.

HTTP Cookies

The Xerox® Quick Link App does not store any cookies on the device.

PII DATA MANAGEMENT

The following personal data is acquired and transmitted by the Xerox® App.

- Email addresses

CLEARING DEVICE BROWSER CACHE

The Device Browser Cache is cleared when one of the following events occur.

- Device Logout
- Device Timeout
- Double Clear All
- Browser Restart
- Cycling the Browser from Disabled to Enabled

3. General Security Protection

User Data Protection within the Products

DOCUMENT AND FILE SECURITY

File content is protected during transmission by standard secure network protocols at the channel level. Since document source content may contain Personally Identifiable Information (PII) or other sensitive content, it is the responsibility of the user to handle the digital information in accordance with information protection best practices.

HOSTING – MICROSOFT AZURE

The cloud services are hosted on the Microsoft Azure Network. The Microsoft Azure Cloud Computing Platform operates in the Microsoft® Global Foundation Services (GFS) infrastructure, portions of which are ISO27001-certified. Microsoft has also adopted the new international cloud privacy standard, ISO 27018. Azure safeguards customer data in the cloud and provides support for companies that are bound by extensive regulations regarding the use, transmission, and storage of customer data.

The Apps hosted in the cloud are scalable so that multiple instances may be spun up/down as needed to handle user demand. The service is hosted both in the US and Europe. Users will be routed to the closest server geographically based on server load and network speed.

CLOUD STORAGE – MICROSOFT AZURE

All Azure Storage data is secured when at rest using AES-256 encryption.

For a full description, please follow these links:

Azure Storage

https://azure.microsoft.com/en-us/blog/announcing-default-encryption-for-azure-blobs-files-table-and-queue-storage/

XEROX® WORKPLACE SUITE/CLOUD AND SINGLE SIGN-ON SERVICES

The Xerox® ConnectKey App Single Sign-On feature integrates with the Xerox® Workplace Suite/Cloud authentication solution to store user access information for SSO-compatible Xerox Gallery Apps. After the user enters their storage service credentials the first time, the XWS/C solution acts a storage vault where the login information is securely stored.

All content to be stored in the vault is encrypted with AES 256 by the SSO Manager server before being given to the SSO vault that resides on the XWS/C solution. This ensures that the SSO vault can never view or use the contents being stored in the vault. Only the SSO Manager infrastructure knows how to decrypt the content stored in the vault and only the App knows how to use it.

The SSO Manager service manages the encryption key exchange required for secure communications and encrypts/decrypts the content saved in the vault.

For a full description, please review the Xerox® Workplace Suite/Cloud Information Assurance Disclosure: https://security.business.xerox.com/en-us/products/xerox-workplace-suite/

User Data in Transit

SECURE NETWORK COMMUNICATIONS

The web pages and app services that constitute the Xerox® Solutions are deployed to Microsoft Azure App Services. All web pages are accessed via HTTPS from a web browser. All communications are over HTTPS. Data is transmitted securely and is protected by TLS security for both upload and download. The default TLS version used is 1.2.

The Xerox® App requires the user to provide proper/valid credentials in order to gain access to the application's features. Authenticated users are allowed to access the features and data using HTTPS.

At launch, the apps must get an authentication/session token through the solution's authentication process. The access token acquired is used for that session of the app.

When using the Xerox® Quick Link App installed on a Xerox® Device, if the customer environment includes an Authentication solution (e.g., Xerox® Workplace Suite/Cloud) with Single Sign-On functionality enabled, no additional administrative steps will be required to operate the app, since the app does not support user personalization.

All communication is done via HTTPS and the data is transmitted securely and is protected by TLS security. The default TLS version used is 1.2. Xerox App Gallery supplies a link to a Certificate Authority root certificate for validation with the cloud web service. It is the responsibility of the customer to install the certificate on their devices and to enable server certificate validation on the devices.

For more information related to Azure network security, please follow the link:
https://docs.microsoft.com/en-us/azure/security/azure-network-security

XEROX WORKPLACE SUITE/CLOUD AND SINGLE SIGN-ON SERVICES

The Xerox® Workplace Suite/Cloud server accepts credential storage requests from the App via the SSO Manager service (the Xerox® App retrieves a vault key from the SSO Manager and uses it to retrieve login credentials from the XWS/C service). All communication is via HTTPS and the data is transmitted securely and is protected by TLS security. The default TLS version used is 1.2.

4. Additional Information & Resources

Security @ Xerox

Xerox maintains an evergreen public web page that contains the latest security information pertaining to its products. Please see https://www.xerox.com/security.

Responses to Known Vulnerabilities

Xerox has created a document which details the Xerox Vulnerability Management and Disclosure Policy used in discovery and remediation of vulnerabilities in Xerox software and hardware. It can be downloaded from this page: https://www.xerox.com/information-security/information-security-articles-whitepapers/enus.html

Additional Resources

Security Resource	URL
Frequently Asked Security Questions	https://www.xerox.com/en-us/information-security/frequently-asked-questions
Bulletins, Advisories, and Security Updates	https://www.xerox.com/security
Security News Archive	https://security.business.xerox.com/en-us/news/

Table 1 Additional Resources