Technical Whitepaper

Version 2.0

Contents

Introduction

The purpose of this document is to provide a product line overview of the EZ Meter product from a technical perspective to help facilitate answers to the most common questions Information Technology teams will receive.

Overview

EZ Meter is a software application that leverages an off the shelf USB network adapter, ethernet cable, and network capabilities of a USB printer/copier to regularly collect, including but not limited to, meter, supply, and service data for printers and copiers that are locally connected to a PC via USB, parallel, or other methods.

Printer and copier managed service providers need to regularly collect meter data to determine billing amounts for customers. This data collection is also useful for automatic supply fulfillment and service call logging. Locally connected devices present a challenge when collecting this information as the printer or copier is not on the network and can't be collected with industry specific collection software (KPAX, FMAudit, etc.).

The advantages of EZ Meter include but are not limited to:
- Automated data collection
    - o Once installed, the data collection happens automatically like any other networked printer or copier. However, is more secure as the printer is not directly connected, can't be printed to over to the network, can't be accessed in any way other than via SNMP.
- Brand and vendor agnostic
    - o Because it is designed to work on the port level it will:
        - ☐ work with any SNMP data collection utility.
        - ☐ work with any printer or copier manufacturer.
- Supply and service data
    - o This solution can report real-time supply and service data.
- Real meters not a counts or calculated meters
    - o The actual meters of the device vs a calculated meter or running count. From a billing perspective this is easier and in line with traditional billing practices.

How EZ Meter Works

EZ Meter works by establishing a local network between the USB connected printer and the user's workstation. This is done by connecting an ethernet cable from the printer/copiers network port to a USB network adapter that is plugged into the user's workstation. This local network connection uses the 192.168.251.x address space by default. This is automatically configured by the EZ Meter software. Manual configuration of address space is supported as well.

With this hardware connection in place and the EZ Meter service running and monitoring port 161 on the user's workstation, it will now be able to pass SNMP requests from a local data collection utility (FMAudit, Netaphor Siteaudit, etc.) to the connected printer/copier.

The EZ Meter connected printer/copier, from a local data collection utility perspective, is indistinguishable from a regular network connected printer/copier.

Reference Figure 1 below for a graphical representation.

TYPICAL LOCAL USB PRINTER CONNECTION

USB (PRINT DATA)

LOCAL USB PRINTER WITH EZ METER

LOCAL DATA COLLECTION UTILITY

kPAX

LAN | WAN

CLOUD DATA AGGREGATOR
(FMAUDIT, NETAPHOR, SITEAUDIT)

EZ METER DATA

USB (PRINT DATA)
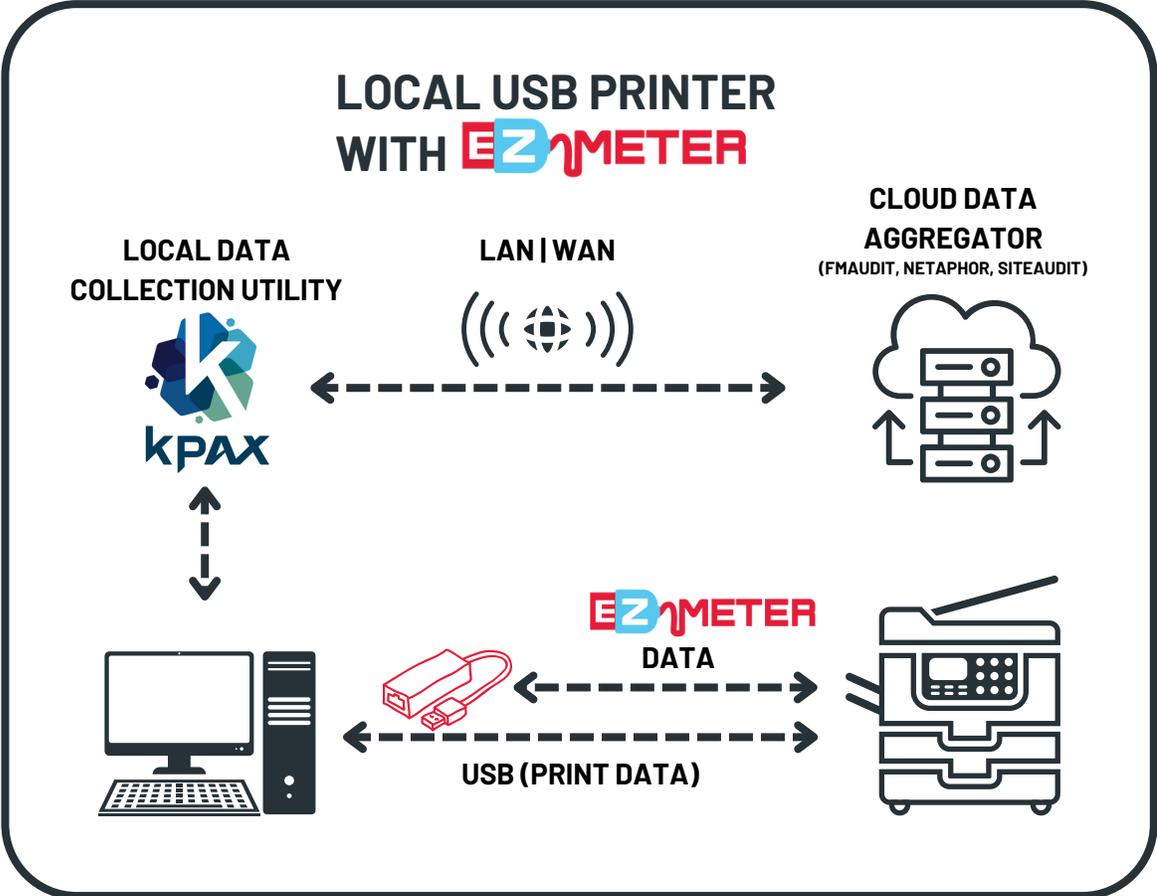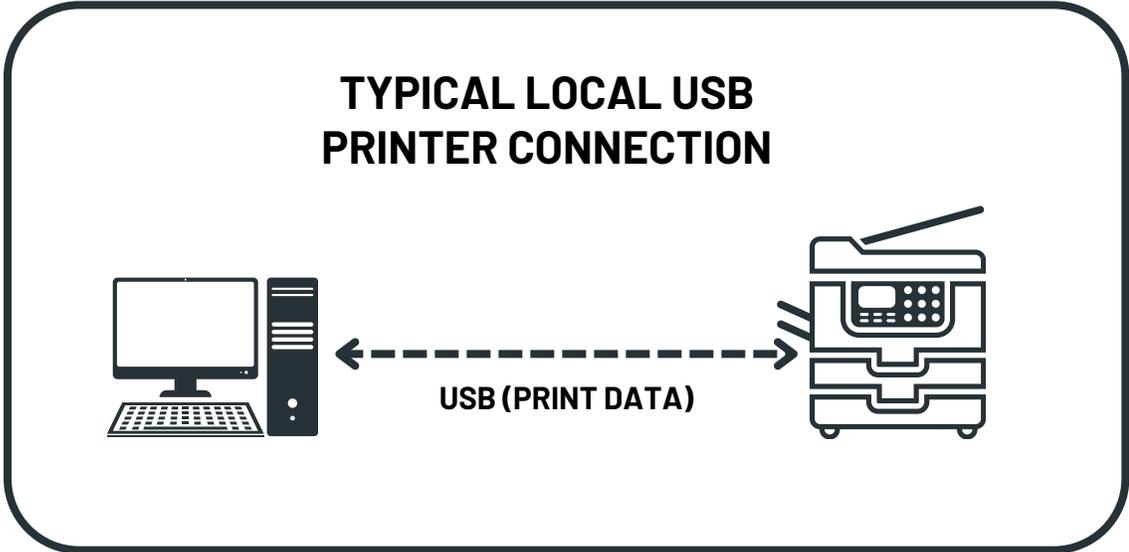
Figure 1

EZ Meter System Requirements

Operating Systems

- Windows 7/8/10/11 – 64 Bit

Hardware

- Network capable printer or copier
  - Note printer or copier will NOT be connected to the network.
- Available USB port for USB network adapter or available network interface card (NIC) on PC.
- Ethernet cable from NIC on PC to NIC on printer or copier.

Other Requirements

- Internet access on PC for licensing registration and periodic check in. (Daily)
- Port 161 on end-user's workstation must be open and not in use by any other SNMP listening service. *E.g. Windows SNMP*

Security

Data Collected

The only data collected for EZ Meter is data necessary for license management of the software. No user information, print job data, or SNMP data is collected or transmitted by EZ Meter. Note, EZ Meter is meant to be used with a SNMP data collection utility and data collected by those utilities fall under their own data collection policies.

The following data is collected and maintained for license management:

- Contact name
- Email address
- Company name
- MAC address (supplied USB network adapter)
- Connected computer IP address and/or hostname

Network Access

EZ Meter does not provide unrestricted network access to the connected printer/copier. From a networking perspective only traffic over port 161 is passed to the printer. Other printer functions such as but not limited to, web interface access and sending print jobs are NOT supported by EZ Meter.

Firewall Considerations

Inbound Connections (WAN/Internet to workstation)

- None

Inbound Connections (LAN to workstation)

Port	Protocol	Purpose
161	SNMP	Statistical print data

Outbound Connections (workstation to WAN/Internet)

Port	Protocol	Purpose
443	HTTPS	Licensing registration & validation

Endpoint	Purpose
https://us-central1-ezmeter-license.cloudfunctions.net/registerDevice	Initial registration with licensing service.
https://us-central1-ezmeter-license.cloudfunctions.net/checkIn	Period (daily) check in to validate license status.

Outbound Connections (workstation to LAN)

Port	Protocol	Purpose
161	SNMP	Statistical print data