HP Device Announcements in JAM Technical White Paper

Table of contents

HP and Channel Partner Viewable

Introduction

Businesses are utilizing managed print services (MPS) to maintain printing capabilities. These services are provided in both the enterprise and small to medium business spaces. MPS providers establish a cost per page (CPP) for each page printed and bill contracting businesses for ensuring printer uptime. The lower CPP, the more competitive the service provider is. There is a need to reduce the operational cost per page (OCPP) for MPS providers to increase their margins.

Utilizing Jet Advantage Manager (JAM), MPS providers can remotely monitor/manage devices and collect page counts for accurate billing to their customers. The remoting capabilities reduce the need for onsite customer visits by MPS provider personnel and reduces the OCPP.

JAM has ability to remotely manage/monitor network connected printers. However, these devices can change network addressing information for various reasons. When this occurs, JAM loses the ability to communicate with these devices and the ability monitor and manage them.

Solution

JAM uses a proxy agent, called JetAdvantage Management Connector (JAMC), which resides on the customer network. In addition, JAM utilizes the announcement capability built into certain devices. Many older and all new enterprise devices provide this capability. When configured properly JAMC, can receive announcement from devices and subsequently discover them. This allows JAMC to either process a new device or reconcile a previously discovered device that may have gone missing due to change network addressing information. To compliment this functionality, JAM can publish events to notify when a device has been discovered (either through tradition discovery methods or via device announcements) or when its network addressing information has changed.
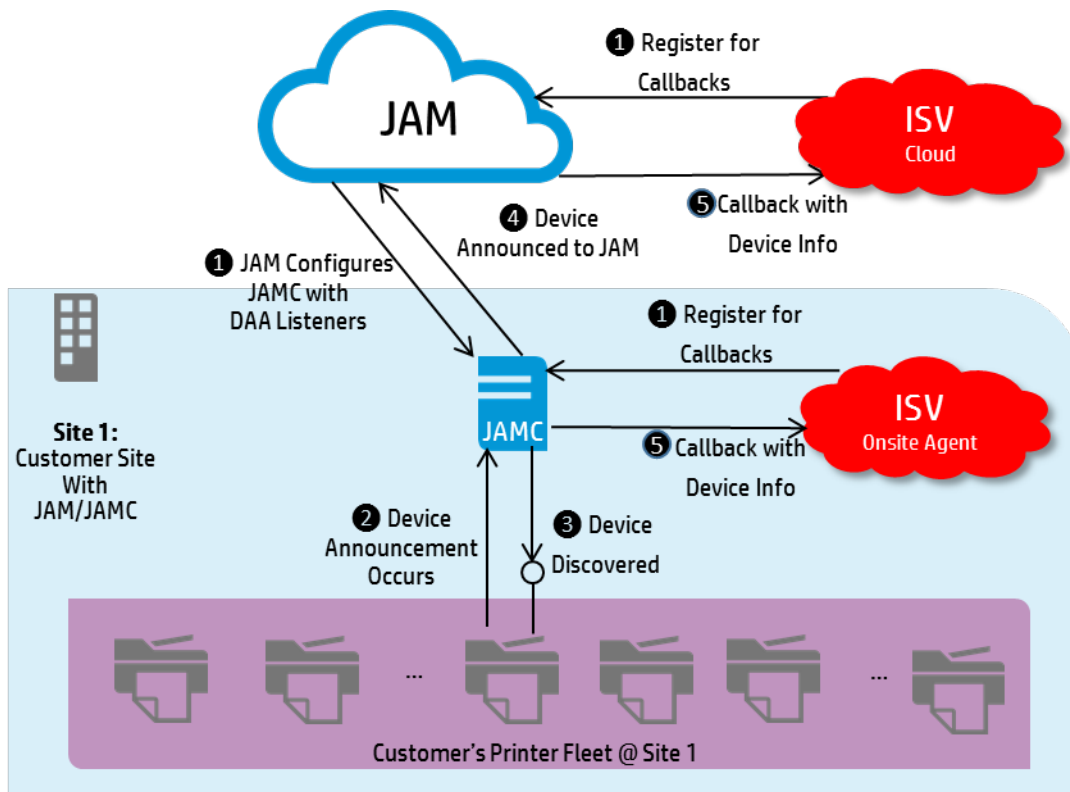
Figure 1 Device Announcement in the customer environment.

Requirements

JAMC:
A registered JAMC is available on the network.

Devices:
The following is a broad categorization of the types of devices that Device Announcement will support.

- New LaserJet A3
- PageWide Enterprise A3 & A4
- LaserJet Enterprise A3 & A4
- Pagewide Pro (Certain models)
- Legacy LaserJet (Certain models)

The LaserJet Pro and Deskjet categories do not support Device Annoucment.

*Note: The HP Security Manager documentation provides a complete list of devices that support Device Announcement. See the "Instant On" column in this document: **http://h10032.www1.hp.com/ctg/Manual/c03601723**.*

Set Up

Network:

Devices can either send notifications to addresses specified at a DNS entry hp-print-mgmt or to a specific address. If the former is chosen, the DNS server must be properly configured so that HP-print-mgmt is designated as the JAMC network address.

There is an API provided by JAM to determine if there is a DNS is configured to have an entry for hp-print-mgmt to match a JAMC network address (**https://developers.hp.com/oxpm/api/partner-api-documentation**, Connectors:CheckDNS).

JAM:
There is a customer preference to enable/disable the ability of JAMC's to receive the announcements from the devices. Note this preference will also apply to announcements received from HP's Smart Device Agent. The preference is available in user interface of JAM (*Figure 2*) and is exposed in an OXPM API (**https://developers.hp.com/oxpm/api/partner-api-documentation**, Customers:CreateCustomer, Customers:UpdateCustomer). This preference also enables/disable announcements from the HP Smart Device Agent for USB connected devices. (See **https://developers.hp.com/oxpm/doc/smart-device-agent** for more details.)

Accept Device Announcements (Network or USB Direct Connect)
Devices with an announcement agent enabled can be automatically discovered when added to the network or moved. This might require DNS server configuration or USB agent installation. Learn more

Devices Use DNS to Resolve Configuration Server
When On, devices are expected to send announcements to hp-print-mgmt using DNS resolution. When Off, devices will be configured to send announcements directly to the server. Learn more
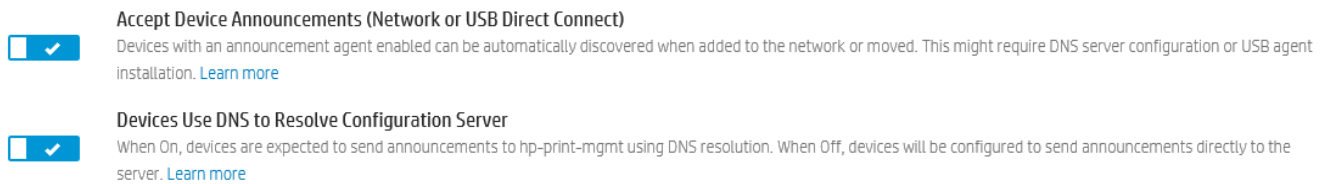
Figure 2 Preferences to enable/disable device announcements and when to use DNS.

Once the preference is enabled, a background configuration job is queued to enable device announcements on the devices that JAM manages for the customer. The designated destination (either hp-print-mgmt or a specific JAMC) is also configured on the devices.

Note: These settings are also available in the device's embedded web server (Figure 3).
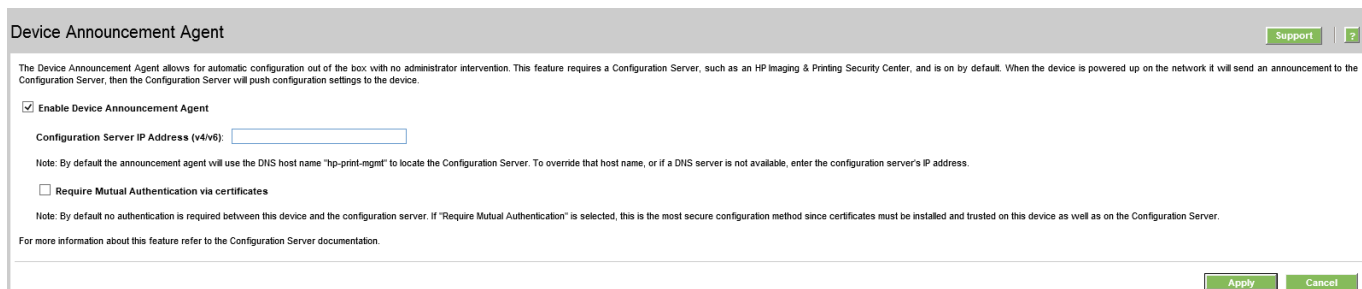

Device Announcement Agent   Support ?

The Device Announcement Agent allows for automatic configuration out of the box with no administrator intervention. This feature requires a Configuration Server, such as an HP Imaging & Printing Security Center, and is on by default. When the device is powered up on the network it will send an announcement to the Configuration Server, then the Configuration Server will push configuration settings to the device.

☑ **Enable Device Announcement Agent**

Configuration Server IP Address (v4/v6): [   ]

Note: By default the announcement agent will use the DNS host name "hp-print-mgmt" to locate the Configuration Server. To override that host name, or if a DNS server is not available, enter the configuration server's IP address.

☐ **Require Mutual Authentication via certificates**

Note: By default no authentication is required between this device and the configuration server. If "Require Mutual Authentication" is selected, this is the most secure configuration method since certificates must be installed and trusted on this device as well as on the Configuration Server.

For more information about this feature refer to the Configuration Server documentation.

[Apply] [Cancel]

Figure 3 Device Announcement Agent settings in device's EWS. Note: Representative EWS. Actual may vary by model.

Device notification and modification events require subscribing with a callback URL. JAM provides several API's to manage these subscriptions (**https://developers.hp.com/oxpm/api/partner-api-documentation**, EventSubscriptions). APIs are provided to create, updated, retrieve, and delete "deviceChange" events. There is also an API exposed via the JAMC interface that can be utilized to register for these call backs: DeviceNotificationCallback.

Application Co-existence

HP Security Manager and JAMC both configured to receive device announcements cannot exist on the same network. Both will contend for the announcements.

JAMC and HP Security Manager on Same Server

Both JAMC and Security Manager utilize the same port to receive device announcements. To receive announcements in HP Security Manager, the preference must be disabled in JAM. Likewise, to receive announcements in JAMC, the use of device announcements in HP Security Manager must be disabled.

JAMC and HP Security Manager on Different Servers

Devices will only forward announcements to a specified destination or to those addresses designated by the DNS entry hp-print-mgmt. While the DNS entry can return a list of possible destinations, the device will stop once it has successfully communicated with one.

Note: There is a future feature called reflection that will allow either JAMC or HP Security Manager to forward the announcement to whichever application is configured to listen to them. This will solve the above contention issue. This has not been implemented yet.

Created April 2017
HP and Channel Partner Viewable