Whitepaper

Security

Every JetAdvice Manager software installation is surrounded by a high degree of data security and confidentiality. Bulletproof security is crucial for us when our software is running on the server and exchanging data over the network.

Technical description

This section describes the technical details about the JetAdvice Server and the JetAdvice Data Collector. You can get important information about the communication between your network and the JetAdvice Server.

Network requirements

- Access to Internet
- SNMP-enabled network

Ports and data

JetAdvice uses HTTP port 80 (Hyper-Text Transfer Protocol) for communication between the JetAdvice Data Collector and the JetAdvice Server. You can compare this to browsing the web with an Internet browser on a standard PC.

All data is exchanged in a compressed and encrypted way using HTTPS port 443 (HyperText Transfer Protocol Secure).

Ports used:
- HTTP port 80
- HTTPS port 443

The JetAdvice Data Collector is using Simple Network Management Protocol (SNMP) to collect MIB / OID data from the printers on your network. This is done using as few network resources as possible.

No print jobs can be reproduced or replicated based on the submitted data. Only accounting/status information (meta data) is transmitted. This ensures a high degree of confidentiality.

Please note that data is encrypted and compressed when transmitted. The data transmission (HTTP request) is usually below 100 Kb.

Data is by default scheduled to be transmitted every 180 minutes to the JetAdvice Server.
The JetAdvice Data Collector service is easily configured on the JetAdvice Server.

Technologies used

The JetAdvice Server and the JetAdvice Data Collector are built on the flexible and highly secure .NET platform that offers superior performance and scalability.

Requirements

- Microsoft Windows Communication Foundation (WCF).
- Microsoft .Net 4.7.2 Framework or higher (if not installed on the server it will require ~600MB).
- SNMP version 1.0 enabled on network and devices.
- Community default name:„Public". It is possible to set the community
- name for each range.

The JetAdvice Data Collector uses very few few resources on the computer it is installed on. It runs on all hardware that meets the .Net 4.7.2 requirements or higher.

JetAdvice

The main JetAdvice Data Collector functions

The JetAdvice Data Collector will contact the JetAdvice server for:
• Authentication
• List of network ranges
• List of MIBS
• Discover and Collect phases

The JetAdvice Data Collector scans all defined network ranges searching for imaging devices (printers, MFPs, fax machines, etc.).

The network scan is flexible and able to collect data from one specific IP Address to a full IP range, e.g.: 192.168.99.1 to 192.168.99.254.

The JetAdvice Data Collector only performs SNMP reads and is not able to update or make any changes to the imaging device.

The JetAdvice Data Collector uses two phases to collect data from an Imaging device: Discover and Collect. Both phases use SNMP to look for specific OID's. From the server, it is possible to configure how often each phase is executed.

Discover phase

The Discover phase is used to look at all IP addresses specified using SNMP. The phase will reveal if the specific IP address holds an image device.

First, one SNMP packet is sent to all IP addresses. If we get a reply, a unique set of OID's is sent to identify the image device. Then the image device is found and stored in the database for the Collect phase.

Collect phase

Depending on the imaging devices found in the Discover phase, the type of data requested can vary. Small devices, like mono printers, are prompted for very little information, whereas a large MFD typically has a wider data set to be collected.

Not all data is collected each time a Collect phase is completed. Some data is collected each time and other data is collected only once.

Collecting the IP address, MAC and Hostname of each image device scanned is standard. This ensures the accurate identity and location information on each imaging device.

If a printer is found, it is matched to a specific MIB and, via SNMP, asked for the specific information related to type and model.

Name	OID	Result
Model_Name	1.3.6.1.4.1.11.	HP Color LaserJet CM4730 MFP
DeviceIdentifier	1.3.6.1.2.1.25.	HP Color LaserJet CM4730 MFP
Model_Number	1.3.6.1.4.1.11.	CB481Q
SerialNumber	1.3.6.1.4.1.11.	JPC1H11795
Firmware_Data_Code	1.3.6.1.4.1.11.	20110829
Firmware_Version	1.3.6.1.4.1.11.	50.021.0
Hostname	1.3.6.1.2.1.1.5.	NP1870A6C
Printer_Display	1.3.6.1.4.1.43.	Ready
Device_Location	1.3.6.1.4.1.11.	Reception
Device_AssetNumber	1.3.6.1.4.1.11.	PRN-2011A8743
Device_Total	1.3.6.1.4.1.11.	698265
Copy_Total	1.3.6.1.4.1.11.	12669
Print_Total	1.3.6.1.4.1.11.	6B4331
Fax_Total	1.3.6.1.4.1.11.	1265
Print_BW_Total	1.3.6.1.4.1.11.	558744
Print_Color_Count	1.3.6.1.4.1.11.	125587

See example

JetAdvice