

AltimaOne

PRINT-4

Copyright © 2003-2007 AltimaOne Ltd. All Rights Reserved.

All trademarks and brand names are marks of their respective holders.

This user guide is protected by international copyright laws. You may not transmit, modify, copy or translate this manual, or reproduce it or any part of it to any machine readable form, without the express permission of the copyright holder.

Disclaimer

AltimaOne Ltd. makes no warranty, either express or implied, including but not limited to, any implied warranties of merchantability and fitness for a particular purpose, regarding the product described herein. In no event shall AltimaOne Ltd. be liable to anyone for special, collateral, incidental, or consequential damages in connection with, or arising from the use of AltimaOne's products.

Product Information

North America (Toll-Free): 1-888-4-802.11g (1-888-480-2114)

Europe and Asia: +972-4-811-3332

www.AltimaOne.com

Write your product license key number here:

License Key:

Table of Contents

Introduction	3
Installing PRINT-4	5
System Requirements	5
Installation and Settings	6
Operation	14
Programming the phone set to work with AVA	16
Billing and Interfaces	17
PRINT-4x XML version	18
Network Diagram	19
End User Instructions	21
Technical Support	24

Introduction

Welcome to the AltimaOne PRINT-4 Driverless Printing Solution

Guests in hotels have been demanding in-room printing for years. Users in Visitor-Based Networks (VBNs) need to do last minute and urgent print-jobs before meetings and presentations or to print-e-tickets before flights. Users in Municipal Wireless Networks need to print maps and high quality color documents. The use of mobile computing is growing fast and so is the need to provide paper-based data, still the preferred media for presenting information. The challenges in offering this service have been the difficulties in installing printer drivers, security and costs of staff intervention. PRINT-4 meets all these challenges, providing plug-and-play printing, securely and automatically. Now you can finally generate revenues by offering driverless printing to your users and guests, as a stand-alone service, or integrated with AltimaOne's High-Speed Internet Access solution (HSIA).

PRINT-4 users simply log-on to the venue or hotel portal, click on the printer icon, select the file they wish to print, select print options and voila! Their documents can be picked up at the nearest printer or fax machine with a user-specific cover-page. Not only does printing with PRINT-4 generate its own revenues, but it can drive up Internet usage rates in the venue as well.

PRINT-4 allows users to securely release print jobs via the web, existing phone networks or mobile phones, therefore, no special hardware is required and print jobs are secured. They are not released until the user approaches the printer and enters his/her PIN code.

PRINT-4 is software technology that integrates with Property Management Systems (PMS), call accounting packages and Billing applications to give you automated billing and reporting with the greatest flexibility.

PRINT-4 prints all major file types from Windows, Linux or Mac applications (Word, Excel, PowerPoint, Acrobat, Web pages, and even graphics files). It can run on a network PC and works with legacy printers and fax machines so you can save on hardware costs.

PRINT-4 is operable in unmanaged/public environments and requires no human attendant, saving venue labor costs. Combined with remote management, this means a lower cost of ownership, increased uptime and user satisfaction.

Key Features

- Automates and secures driverless printing in public internet environments.
- Optionally uses existing telephone infrastructure or mobile phones to release print jobs.
- Prints all Microsoft Office documents (Word, Excel, Power Point, Emails), Web pages, Adobe PDF and graphics files from all operating systems. Other formats can be added easily.
- No end-user software to install. Completely Plug & Play.
- Works in attended and unattended mode, with direct and network-connected printers and fax machines.
- Comfortable and intuitive web-based user interface for users.
- Optional XML API for interface to external User Interface.
- Security: User gets PIN code to release print-job at printer. Administrator, staff, and end-user level access and rights.
- Remote management and configuration.
- Web portal interface completely customizable to match the look and feel of the venue portal.
- Users can preview print-job and view its status on-line
- Payment: When used with Nomadix gateway, or your own billing application, users can choose payment method: Prepaid, voucher, credit card, room bill or other subscriber account.
- Pricing: Flexible configuration of rates to end-users.
- Cover-page: Every job accompanied by an identifying page with venue-name, user ID (for release authentication), number of pages and cost of print job.
- Configurable maximum number of pages and print-jobs per session to prevent abuse.

Note:

This manual covers versions PRINT-4 v3.2 and PRINT-4x v3.2. PRINT-4x v3.2 refers to the XML enabled version (description below). Where differences in operation between the two versions appear, there will be a separate entry for PRINT-4x v3.2 preceded by a "→".

Installation and Settings

This chapter describes the installation process for AltimaOne's PRINT-4 Driverless Printing Solution, version 3.1. AltimaOne is interested to get any and all feedback you may have about this document or the PRINT-4 product. Please direct any comments you have to support@altimaone.com.

System Requirements

Hardware

- CPU: 2 GHz.
- RAM: Minimum 512Mb, recommended 1Gb
- Hard drive:
- Installation: 100 MB of free space
- Document storage: 20 GB free space (this will store approx 5000 pages)
- Recommended: 8Mb cache, ATA133 7200 rpm or SCSI
- Voice Modem: voice capable, TAPI compliant (tested with Conexant chipset) for optional voice-release feature
- Network interface card: 10/100 full duplex

Software

- O.S.: MS windows XP or 2003 Server
- Web server: Apache 2.0 (comes with installation)
- Perl: version 5 and up (comes with installation)
- Installed applications to print all desired document types (MS Office, Adobe Acrobat, etc.)
- → For PRINT-4x: Perl Modules and PostgreSQL required for use with XML interface

Installation:

From the CD, run PRINT-4.EXE. This will start the installation program.

Install IndigoPerl

- If you don't have IndigoPerl installed on your machine, leave the checkbox next to "Skip IndigoPerl installation" blank. Check it only if you have Indigoperl installed.
- If IndigoPerl is installed, when prompted:
 - Select the location where the HTDOCS folder is located.
 - Select the location of the BIN folder where PERL.EXE is located.

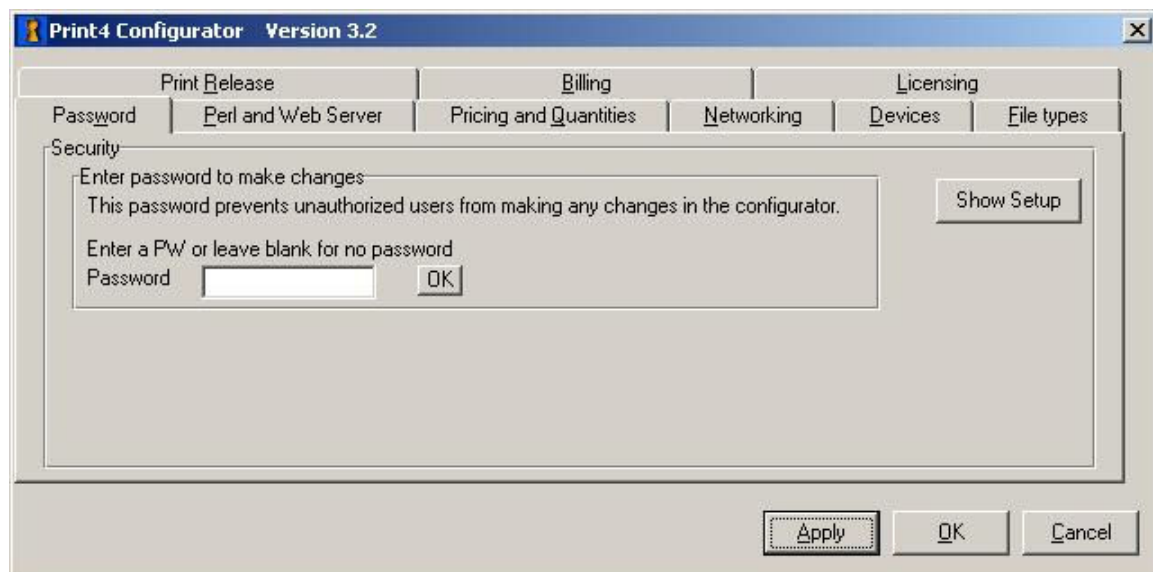
Note: Make sure that no other application is using port 80 at the time of installation. In the CMD console type "netstat -abn" to see whether any applications are using port 80. Stop those if port 80 is being used. If you have already tried installing IndigoPerl and you get the following message: "make_sock: could not bind to address 0.0.0.0:80": Stop any services using port 80 (including Skype if running), uninstall apache, and reinstall.

To uninstall Apache, click on Start → Programs → IndigoPerl → Uninstall. Then proceed to delete the IndigoPerl directory.

Note: This will delete any unprinted documents waiting to be released.

Configurator

- Run the PRINT-4 Configurator (Start→All Programs→AltimaOne PRINT-4→PRINT-4 Mobile Print Server).
- In the Password tab: Enter a new password and press Hide Setup



- In the Perl and Web Server tab:

The screenshot shows the 'Print4 Configurator Version 3.2' window with the 'Perl and Web Server' tab selected. The window has a title bar and a menu bar with 'Print Release', 'Billing', and 'Licensing'. Below the menu bar are tabs for 'Password', 'Perl and Web Server', 'Pricing and Quantities', 'Networking', 'Devices', and 'File types'. The 'Perl and Web Server' tab contains the following fields:

- HTML Home Folder:** A text box containing 'C:\indigoper\apache\htdocs' and a 'Browse' button to its right.
- Perl Path:** A text box containing 'C:\indigoper\perl\bin\perl.exe' and a 'Browse' button to its right.
- Offline Message:** A text box containing 'Sorry, the PRINT4 server is offline.'

At the bottom of the window are three buttons: 'Apply', 'OK', and 'Cancel'.

- If the location of HTDOCS has changed, Browse for and select your web server folder. Then press the “OK” button to the right side of the HTML Home Folder text box.
- If the location of the Perl.exe has changed since installation. Browse for and select your Perl command line interceptor. Then press the “OK” button to the right side of the Perl Path text box.
- Type your desired offline message.

In the Pricing and Quantities tab:

The screenshot shows the 'Print4 Configurator Version 3.2' window with the 'Pricing and Quantities' tab selected. The window has a title bar and a menu bar with 'Print Release', 'Billing', and 'Licensing'. Below the menu bar are tabs for 'Password', 'Perl and Web Server', 'Pricing and Quantities', 'Networking', 'Devices', and 'File types'. The 'Pricing and Quantities' tab contains the following fields:

- Color Printing:**
 - Initial page cost:** A text box containing '3'.
 - Subsequent page cost:** A text box containing '2'.
- GrayScale Printing:**
 - Initial page cost:** A text box containing '2'.
 - Subsequent page cost:** A text box containing '1'.
- Currency:** A dropdown menu showing '\$' and a button with '\$'.
- Maximum Numbers:**
 - Documents per Session:** A text box containing '3'.
 - Pages per Document:** A text box containing '30'.

At the bottom of the window are three buttons: 'Apply', 'OK', and 'Cancel'.

- Fill in the price fields.
- Enter the maximum number of documents that can be printed in one user session with PRINT-4 (3 recommended)
- Enter the maximum number of pages per document

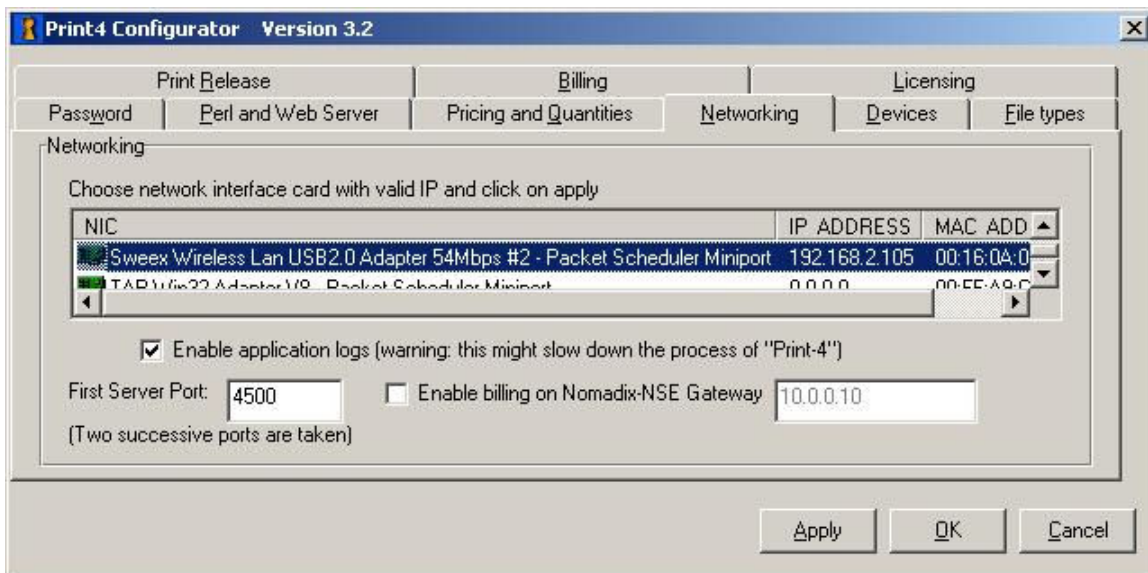
In the Billing tab:

- Select the timing for billing to occur – Billing after user agrees to the amount being charged, or Billing after the printer releases the print-job.

When the user accepts the print-job's cost in Step 4, his browser can be redirected to the mentioned external billing web page. Such as credit card billing.

The external billing web page should redirects the server back to boxes5.htm (step 5) when billing is complete

In the Networking tab:



Set a port to number 4500 (if not defined before).

Using PRINT-4 with “Nomadix” Gateways

If a Nomadix gateway is used in the venue and you wish to enable room-billing, check the box “Enable billing on Nomadix-NSE:” in the PRINT-4 Configurator (see screenshot above) and then enter the IP address of the Nomadix gateway.

PRINT-4 connects to the Nomadix gateway via the Network side interface of the gateway. In the Nomadix gateway:

- Enable XML in the XML configuration page of the gateway. You must enter the IP address of the PRINT-4 server in one of the XML server IPs.
- Enable Print Billing and enter the URL of the PRINT-4 server into the AAA configuration page in the Nomadix gateway (e.g. [http://\(real IP of the PRINT-4 server\)/P4/Boxes1-2-3.htm](http://(real IP of the PRINT-4 server)/P4/Boxes1-2-3.htm))
- Enable Parameter Passing on the AAA page on the internal web-server of the gateway
- Enable Origin Server (OS) parameter encoding for portal page and EWS.
- Users must connect using VLAN tags for printing
- Users must link to the “print.server.com” URL in your property portal (Internal or external web server) the Nomadix gateway will resolve to the URL of PRINT-4 server as entered in the print billing command. With these variables sent to the PRINT-4 server, it can now send the XML command to bill the users properly.
- Subscribers could get to print.server.com by:
 - ☐ ICC button link
 - ☐ Printout in the hotel room

- ☐ Link from the hotel's HPR Page
- For central deployment of PRINT-4, enable port-forwarding in both the on-site and central site routers/firewalls to give PRINT-4 access to the IP of the gateway and the on-site printer.

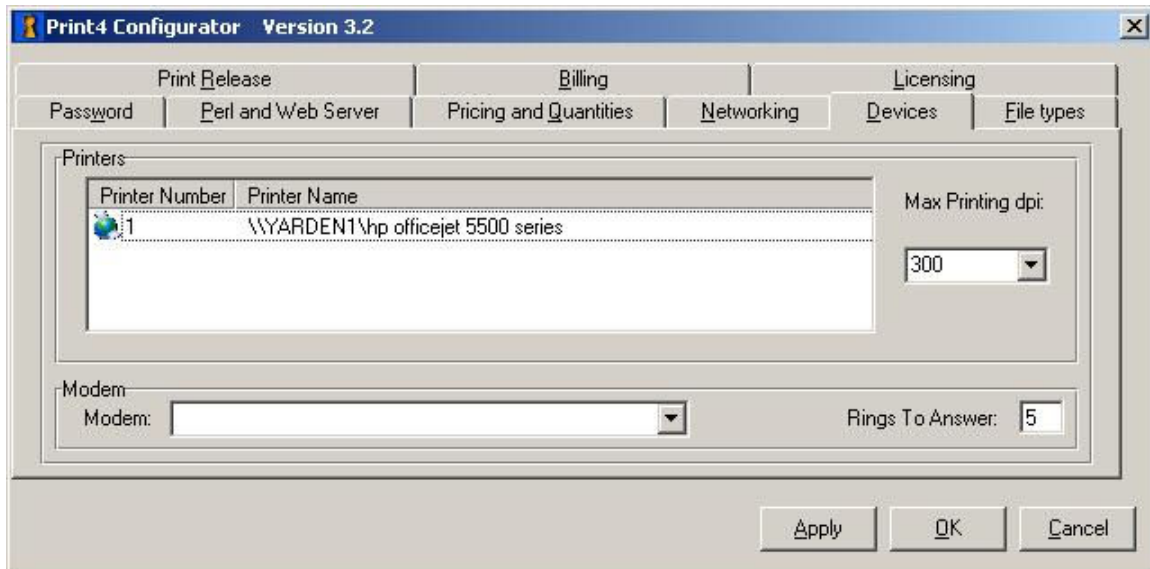
Authentication Authorization and Accounting Settings

AAA Services	<input type="checkbox"/> Enable	
XML Interface	<input checked="" type="checkbox"/> Enable	
	XML SERVER 1 IP	<input type="text" value="0.0.0.0"/>
	XML SERVER 2 IP	<input type="text" value="0.0.0.0"/>
Print Billing Command	<input checked="" type="checkbox"/> Enable	
	Print Server URL	<input type="text" value="http://(IP of PRINT-4 Server)/P4/Boxes1-2-3.htm"/>
AAA Passthrough Port	<input type="checkbox"/> Enable	
	Port	<input type="text" value="0"/> Port must be different from 80, 2111, 1111, and 1112.
802.1X Authentication Support	<input type="checkbox"/> Enable	
Note: 802.1x requires that both AAA and RADIUS Authentication be enabled.		
Enable Origin Server (OS) parameter encoding for Portal Page and EWS	<input checked="" type="checkbox"/> Enable	
Enable failover to Internal Web Server Authentication if Portal Page/External Web Server is not reachable	<input type="checkbox"/> Enable	

- Enable Application logs if you have a technical support issue and are requested to do so by AltimaOne technical support staff
- Select the NIC to be used by PRINT-4

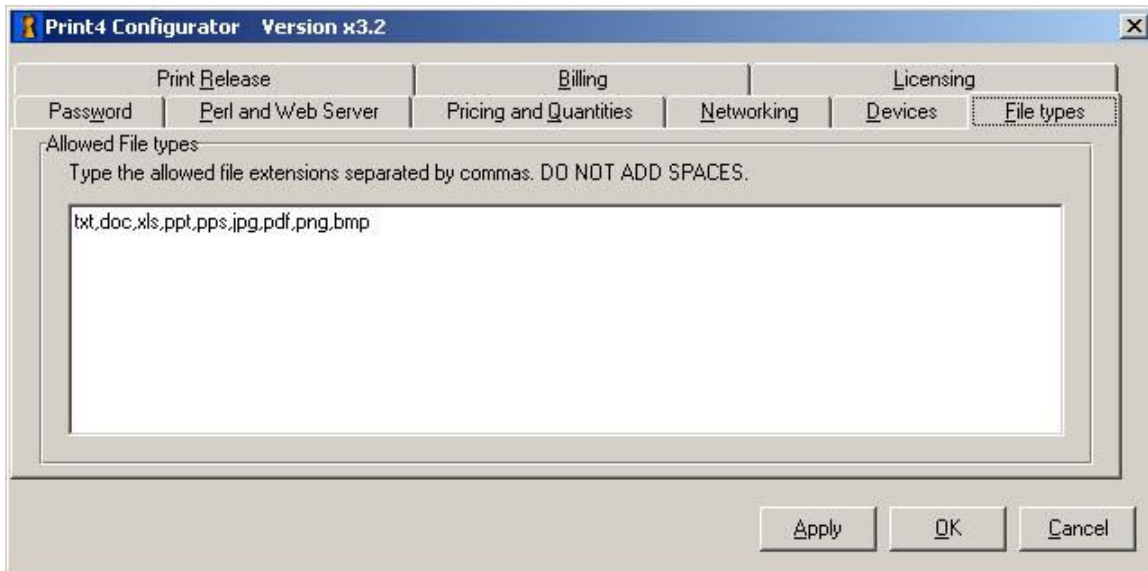
Port numbers: Apache is configured to send data to PRINT-4 via default port number 4500 and 4501.

In the Devices tab:



- Select modem in the modem field (must be a TAPI-compatible voice modem otherwise it will not appear in the modem list) if you want to use PRINT-4's voice release feature.
- Select the printers to be used by the PRINT-4 service. These are printers that are installed on the PRINT-4 server
- Double click on the appropriate sphere and select the designated printer in the pop-up window. Click OK and return to PRINT-4 Configurator. To remove a printer from the list, use the Backspace key.
- Select the Maximum Printing DPI with the pull-down window. 300 DPI is recommended.
- Set number of rings before PRINT-4's AVA answers the user's call.

In the File Type tab:



To enable printing of different types of files, enter the appropriate extension in the text box (i.e. for Word documents enter “doc”, for Acrobat enter “pdf”). File extensions not appearing on the list will not be printed by PRINT-4. Extensions must be 3 letters long and separated by a comma with no blank spaces in between.

PRINT-4 must have the applications capable of printing the file types you select installed on the same machine. e.g Word must be installed on the PRINT-4 server in order to print .DOC files.

Microsoft Windows of the machine running PRINT-4 should be configured to use the Microsoft Paint application as the default to open BMP,PNG files in order for PRINT-4 to be able to print them.

Note: in the Preview GUI, some files will be compressed so that they may fit in the preview window and end-users may see the pages as slightly blurry though the printed result will be as sharp as desired.

In the Print-release tab:

Choose whether you would like to use Voice-release, Web release or both. Make sure that the User-request feature is selected in AVA. Printing direct-to-printer is done in the AVA program by selecting *Direct*.

The screenshot shows the 'Print4 Configurator Version 3.2' window with the 'Print Release' tab selected. The window has a title bar with a close button. Below the title bar are three tabs: 'Print Release', 'Billing', and 'Licensing'. The 'Print Release' tab is active and contains the following text: 'Select the methods user can release print-jobs.' followed by 'User request'. There are two checkboxes: 'Voice release (Users enter PIN via phone)' which is unchecked, and 'Web release (Users enter PIN via web)' which is checked. Below these is the text 'To choose direct printing or turn off printing use the AVA interface'. At the bottom of the window are several buttons: 'Password', 'Perl and Web Server', 'Pricing and Quantities', 'Networking', 'Devices', 'File types', 'Apply', 'OK', and 'Cancel'.

In the Licensing tab:

The screenshot shows the 'Print4 Configurator Version 3.2' window with the 'Licensing' tab selected. The window has a title bar with a close button. Below the title bar are three tabs: 'Print Release', 'Billing', and 'Licensing'. The 'Licensing' tab is active and contains the following fields and buttons: 'Requested number of printers:' followed by a text input field, a 'Generate key' button, and another text input field. Below these is the text 'Type your License key here:' followed by a text input field and a 'Register' button. At the bottom of the window are several buttons: 'Password', 'Perl and Web Server', 'Pricing and Quantities', 'Networking', 'Devices', 'File types', 'Apply', 'OK', and 'Cancel'.

This step can be omitted if you are installing a demo version of PRINT-4:

- Enter the number of printers for which you have purchased a license from AltimaOne.
- Press *Generate key*.
- Copy the key and email to license@altimaone.com.
- Paste/type the license key you receive back from AltimaOne by email and press *Register*.
- Enter a password to protect configuration settings (optional).
- Close the configurator.

Notes: You must generate the key on the same machine you will use PRINT-4 on. The license you receive from AltimaOne will only operate on the machine on which the key was generated.

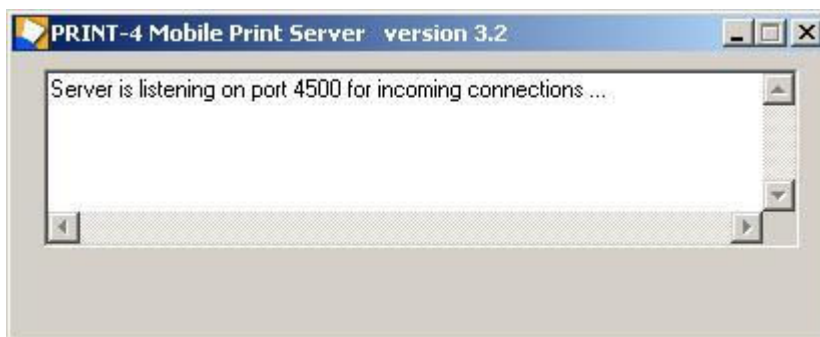
Once PRINT-4 is configured, the configurator needs to be run only when changes to the settings are needed.

Changes entered through the configurator take effect only after the two applications “PRINT-4” and “Ava” are restarted.

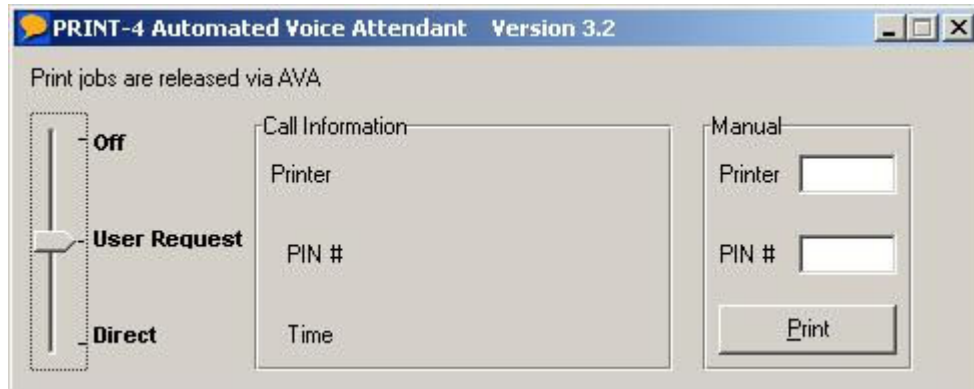
When re-installing PRINT-4, make sure to delete old print jobs first listed in the HTDOCS/Uploaded folder.

Operation

- Run “Mobile Print Server” (Start→All Programs→AltimaOne PRINT-4→PRINT-4 Mobile Print Server).
- A monitor window will open.



Run “AVA” (Start→All Programs→AltimaOne PRINT-4→PRINT-4 AVA).



- Select the Print release method.
 - Positioning the slider in AVA to the “User-request” position will enable release of print-jobs only through AVA’s dial-in service or web release. This automates the printing service and adds a layer of security for printed documents.
 - Moving the slider button to the “Direct” will send print-jobs directly to the printer after the user has completed the upload process, without requiring a PIN to release it. Use this feature for free printing or for manual billing.
 - Sliding the printer to the “Off” position will disable printing via PRINT-4.

All print jobs are accompanied by a cover-page indicating the user’s room #(if applicable), number of pages, whether printed in black and white or color, the user’s MAC address and the total price for the print-job. The cover page and jobID# (also used for the user pin) may be used for manual authentication by hotel staff before giving print-jobs to clients.

Due to differences in some countries’ versions of Windows, you may be required to use a comma instead of a decimal point, when entering fractional pricing (e.g. 1.25 or 1,25). Please examine the pricing on the cover page and amend accordingly.

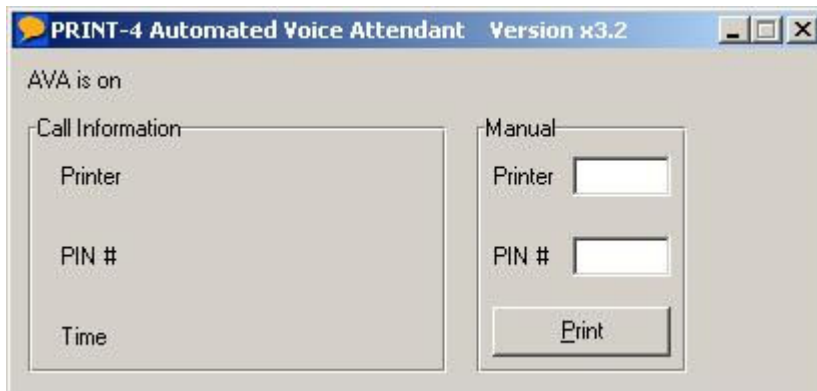
Web-release: Since version 3.0 is the web-release feature. In addition to direct-to-printer and voice-release methods, AltimaOne has added a web-release feature which allows users to release the print-job by entering their 4-digit PIN number in their wireless device (laptop or PDA) web interface. AVA must be set to “User request” to enable this function.

Configuring for Voice and/or Web-release: In the PRINT-4 Configurator, under the Print-Release tab, select the voice-release and/or web-release methods for users to release their print-jobs. PRINT-4 will automatically provide users with the

appropriate instruction screens depending on the selections you make in the configurator. In AVA, move the slider to *User-request*.

Configuring for Direct-print: In the configurator, make sure that voice-release and web-release are not checked. In AVA, move the slider to *Direct*. Documents will be printed directly to the printer.

→ For PRINT-4x 3.2 AVA appears differently and the slider option is no longer visible as the release method will be controlled by the operator's UI which will send the PRINT release command to PRINT-4x via XML.



Programming the phone set to work with AVA

PRINT-4 features an Automated Voice Attendant which prompts users to enter the printer ID number and the PIN code provided by the web interface. This uses existing telephone infrastructure (or the user's mobile phone) to secure and automate printing.

Some phones can be programmed to speed-dial the extension of the PRINT-4 Driverless Printing Solution. Phones with more than one speed dial button can have one button for the PRINT-4 extension number and one button for the printer ID#. These buttons should be clearly marked.

Some telephone models can be programmed to dial both numbers with a single speed-dial button, using a digit (i.e., *, #) representing a pause between the PRINT-4 extension number and the printer ID#.

Users can also access AVA via their mobile phones, eliminating the need for phone extensions near the printer. If a phone extension is not available, post the AVA phone extension on the user instruction card.

Manual Printing

If a user has a problem in dialing the AVA, he/she can request the hotel staff to manually print the document. Property staff (if PRINT-4 is running locally) should start AVA; enter the guest's PIN code, and a printer ID#. In central deployment, support staff can access the manual release feature in AVA.

Password

PRINT-4 allows system administrators to protect the settings of PRINT-4 with a password. This enables hotel staff to access the system while preventing any changes to pricing, settings, etc. Every change of data in the configurator demands entering the password.

To set up a password, open PRINT-4 Configurator first time after the installation. Enter the password, confirm it, and press OK. This password will protect the settings from being accessed or changed, but will still allow manual printing and access to the logs.

Billing and Interfaces

In PRINT-4's web-based user interface, users are provided with information on the number of pages and the total cost of the print job and they are asked to confirm that they agree to pay for this service before continuing.

PRINT-4 always prints a cover page with the user name and port number if available, number of pages, document file name, number of copies, color/B&W, and the total cost as calculated in "Installation and Settings". Users are not billed until the print job is released by AVA or otherwise printed. Billing cost that contains fractional data must be inserted with a decimal point and not a comma.

Manual Billing:

Local staff may simply enter the amount into the venue's billing system (PMS, POS, etc).

PMS:

Nomadix H/USG:

PRINT-4 has an interface supporting billing through the Nomadix purchase command. This command currently supports the one-way and two-way PMS of Micros-Fidelio via Nomadix gateways.

→ PRINT-4x XML edition Post

PRINT-4x is the version of PRINT-4 that is operated by the operator's UI application. The Operator's application should send XML commands to PRINT-4 such as UPLOAD, INFO, STATUS and PRINT. These are further described separately in our PRINT-4 XML information sheet. In this configuration, PRINT-4 provides information on the number of pages and the operator's application calculates the billing.

→ Install preparations

After installing the package, the application is ready to use with its built-in web interface. To "upgrade" this system for XML support (not dependant on interface) following steps need to be performed:

Note: Port must be set to 4500 in order for the XML interface to work

Install Perl modules:

XML-Namespacesupport (<http://search.cpan.org/dist/XML-Namespacesupport/>)
XML-SAX (<http://search.cpan.org/dist/XML-SAX/>)
XML-Simple (<http://search.cpan.org/dist/XML-SAX/>)

(All these modules are required for XML creation, sending and receiving)

DBD-PgPP (Postgresql module – to communicate between server and database)

(<http://search.cpan.org/dist/DBD-PgPP/>)

Installing PostgreSQL (version 8.1 and above)

(<http://wwwmaster.postgresql.org/download/mirrors-ftp>)

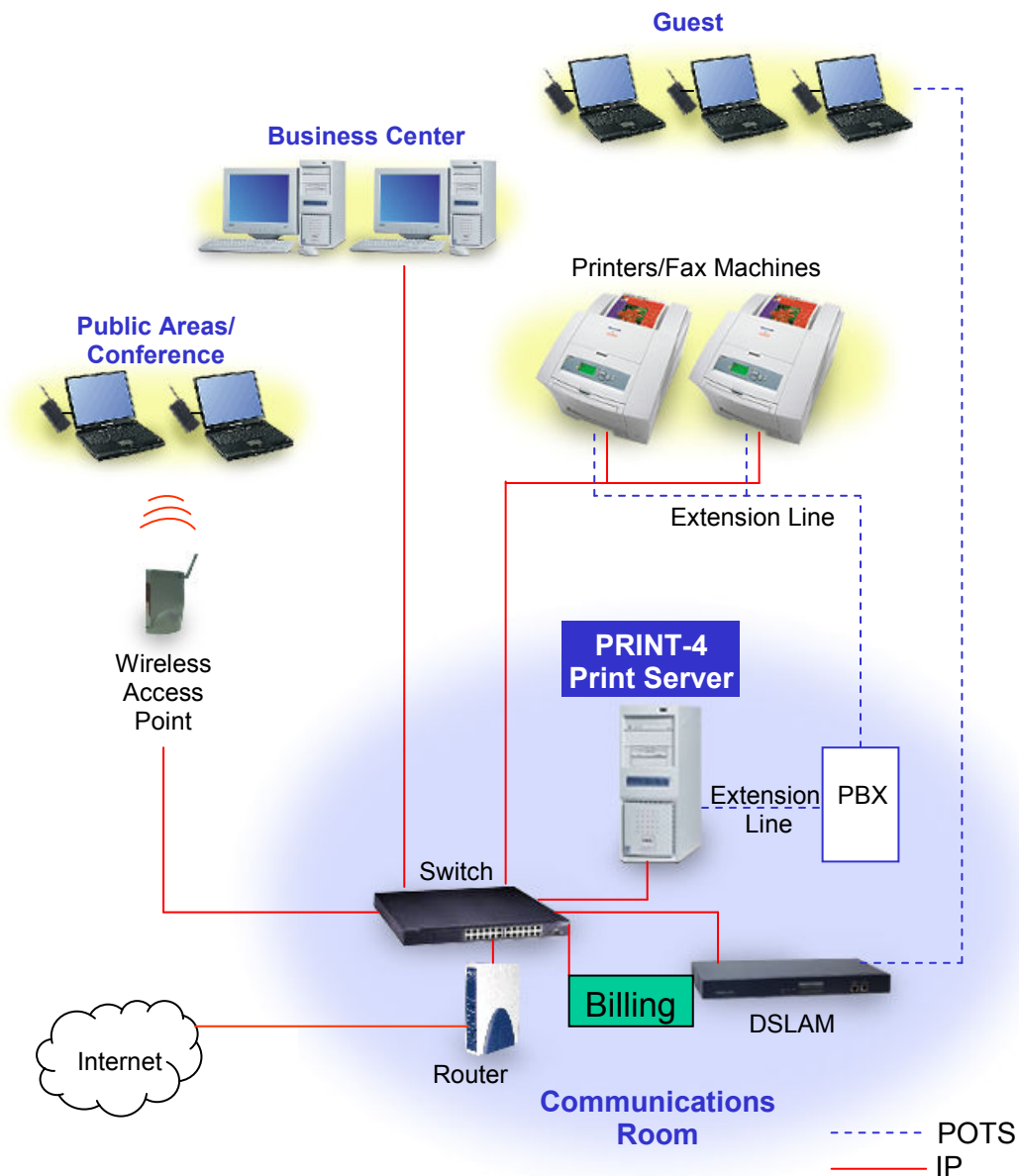
Create a database named "Altimaone".

Default user name is "postgres"; default password is "print4".

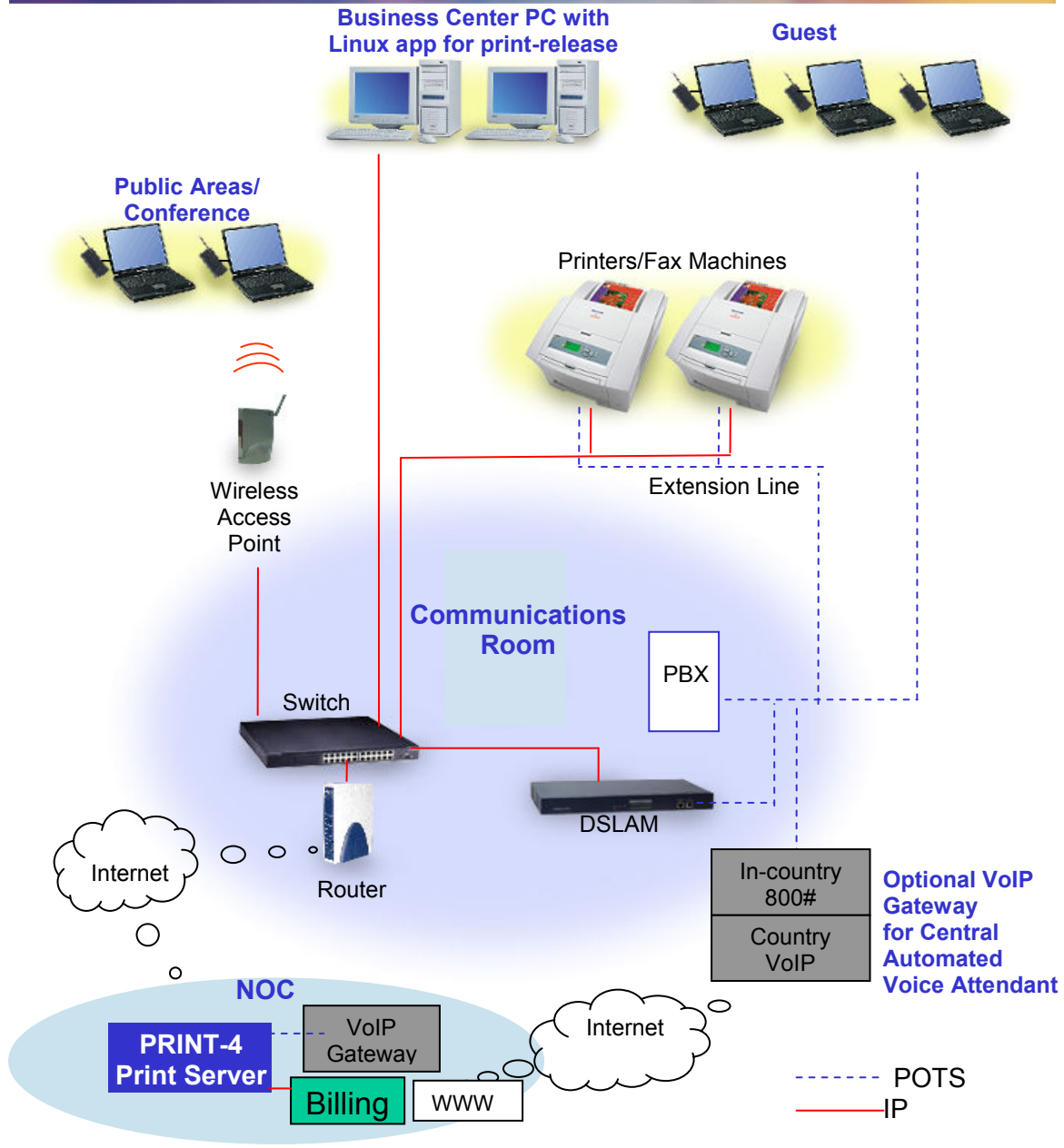
Creating database of print job can be done using existing script (jobs_db_create_pg_last.cgi) or addressing AltimaOne.

After setup the client can build their own user-interface according to XML requests and responses by using our specification (See XML Operator Specification doc).

AltimaOne PRINT-4 On-Site Deployment



AltimaOne PRINT-4 Central Deployment



End user instructions for releasing print jobs

The following appears as help text on PRINT-4's web interface.
It can also be printed on help cards next to the printers to assist users. (See

Releasing your print job

Go to your desired printer and dial the Automated Voice Attendant (AVA) by pressing the preset button on the adjacent phone or fax keypad or by dialing the extension _____. You can also use your mobile phone by dialing tel. _____.

At the voice prompt, dial the printer number: _____ followed by a # sign.

At the voice prompt, dial the PIN code you received on-line followed by a # sign.

If you receive an error message, check your PIN code and redial it. If this doesn't help, it is possible that your print job is still being processed. Disconnect and try again after a few minutes.

If you are still getting an error message, refer to a staff member for help.

You will not be billed until the document is released by PRINT-4 and printed.

Documents not printed within 24 hours will be automatically deleted from the PRINT-4 Server and will not be billed.

To print web pages:

Go to the desired web page and copy all (CTRL+A and then CTRL+C), and then open a new Microsoft Word document and paste (CTRL+V) into the word file. Save the file and then proceed to step 1 above.


To print emails:

Save the email as either Rich Text Format or a Word (*.doc) type and then proceed to step 1 above. If neither of these types are available you will need to copy the contents of your email into a Word document and proceed as above.

Ensure that *.txt files are configured to open with Word on the PRINT-4 server.

Sample instruction card


Place next to the printers to assist users.



Releasing your print job

1. Dial the Automated Voice Attendant (AVA) by pressing the preset button on the adjacent phone or fax keypad or by dialing the extension _____. Mobile phone users may dial _____.
2. Dial the printer number: _____ followed by a # sign.
3. Dial the PIN code you received on-line followed by a # sign.
4. If you receive an error message, check your PIN code and redial it. If this doesn't help, it is possible that your print job is still being processed. Disconnect and try again after a few minutes.
5. If you are still getting an error message, refer to a staff member for help.
6. You will not be billed until the document is released by PRINT-4 and printed.
7. Documents not printed within 24 hours will be automatically deleted from the PRINT-4 Server and will not be billed.

- **To print web pages:** Go to the desired web page and copy all (CTRL+A and then CTRL+C), and then open a new Microsoft Word document and paste (CTRL+V) into the word file. Save the file and then proceed to step 1 above.
- **To print emails:** Save the email as either Rich Text Format or a Word (*.doc) type and then proceed to step 1 above. If either of these types is not available, you will need to copy the contents of your email into a Word document and proceed from step 1 above.



PRINT-4
Mobile Print Server

Technical Support:

Please contact support@altimaone.com

North America (Toll-Free): 1-888-4-802.11g (1-888-480-2114)

Europe and Asia: +972-4-811-3332

www.AltimaOne.com