Mobile Printing in Industry

8 Questions Businesses Should Ask Before Deciding

SEALSYSTEMS
THE DIGITAL PAPER FACTORY

**"Mobile Printing – what businesses need that?"
is still an oft-asked question from buyers and IT
managers. In this article we conclude that, from
the user side, the answer is increasingly:**

"WE DO!"

**A company which wants to introduce a strategy
for mobile printing has several different solution
approaches at its disposal. What they are, and
which factors a company should evaluate before
deciding, will be explained here.**

Smartphones and tablets have not (yet) made
the printing of documents redundant. In business,
documents on paper are still indispensable. Mobile
devices and printers are often not made to be
compatible with each other. Up until now, the de-
mand for printing via mobile devices mostly came
from the top. However, in the last two to three
years it has been evident that mobile printing is
an element in many larger announcements on the
subject of printing infrastructure. Many business

are now producing rollouts with mobile printing
solutions. But many IT managers and buyers ask
themselves: do our users need that?

A look at the statistics reveals the following
picture:

*Why don't users print from their mobile devices?
The most important reasons*:*

a) „I don't have a printer that can do that."
   (48%)

b) „My mobile device can't do that."
   (32%)

c) „I don't need it."
   (29%)

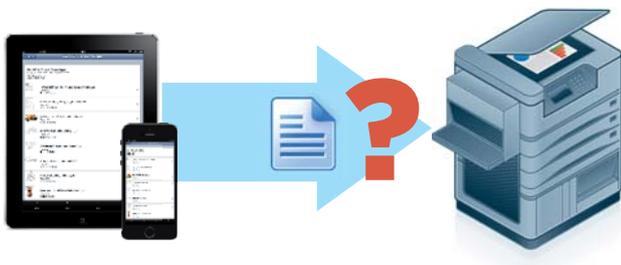**Source: InfoTrend Study 2012, Link*

The upshot of this (already 3-year-old) survey is fairly clear: only 29% of respondents needed no print functions on their mobile devices – the majority of the users said they had no way to do such printing.

What's more, companies increasingly profit from strategic use of mobile devices in their business processes models.

While smartphones and tablets used to be mostly for employees in field work, providing them the ability to call in, check emails and manage appointments, more and more employees now work with mobile devices primarily, or even exclusively. An international corporation, for example, has recently equipped its German subsidiary's 600 employees with tablets instead of laptops. These employees still need be able to print. At present, mobile devices are seen not as a front-end replacement for laptops for text processing and creating documents. However, you should ask yourself the following questions:

- Can you view and check over a 10-page contract on a 7-inch display?

- Do you want to send your images or documents to a PC first before printing?

- Have you ever forgotten a document which you needed quickly before a meeting, after you had already left your office?

- Would you swap your laptop for a tablet, if you didn't have to do any printing?

The subject of mobile printing is also no longer dismissed out of hand, and many businesses are beginning to consider what an optimal solution for their users would look like.

You can currently choose from four solution options, according to your needs.

Mobile Printing Via Manufacturer App and Email

Nearly all printer manufacturers today offer apps to bring data from mobile devices to paper.

Printing services are delivered without the usual drivers and installation programs: as a rule, an app download and a compatible printer are enough. Print orders of documents, emails and images are sent via app directly to the printer. Some providers simplify this process by one step, by doing away with the application and furnishing the printer with its own email address. Further solutions for mobile printing by email include a mail server to which the user sends the print order. In some cases, output options can be given through coded notation (e.g. printers, number of copies). Many printers of one manufacturer can then be connected over a mail server in this way.

The mobile device and printer must either use the same Wi-Fi, or the printer must be connected to the Internet. Wi-Fi printers have their own Internet access and no longer need to be hooked up to computers in order to be controlled over the Internet.
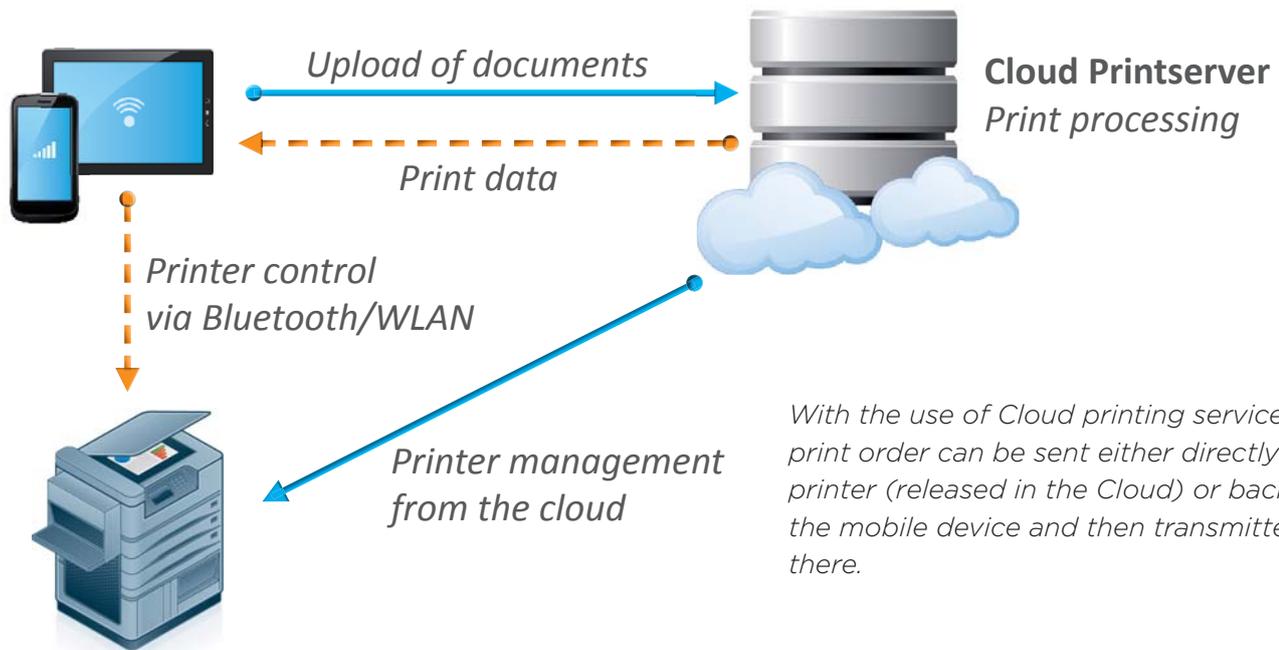
Printer Functions of Mobile Devices

Along with the solutions of various printer manufacturers, there are also those of mobile device manufacturers. For example, most large printer manufacturers support the Apple printing service AirPrint. This printing service can work with the printers of different manufacturers – the range of models covered is relatively large. Samsung, for example, provides a print function on its mobile devices. The mobile device and the printer must be enabled in the same Wi-Fi network.

Mobile Printing over Cloud Services

Cloud printing services like Google Cloud Print take another approach by which the print preparation and control take place over a cloud server. The printer must either be web-enabled or have Internet access over a connected, switched-on computer. The documents to be printed are uploaded to the Cloud server over an app, where print processing and spooling takes place.

The printer is enabled beforehand on the cloud server and can then be controlled directly from

Upload of documents

Print data

Cloud Printserver
Print processing

*Printer control
via Bluetooth/WLAN*

*Printer management
from the cloud*

With the use of Cloud printing services, the print order can be sent either directly to a printer (released in the Cloud) or back to the mobile device and then transmitted from there.

there. Google Cloud Print is the easiest to use together with the Cloud service Google Docs and Android devices. A new addition allows Google Cloud Print to be extended so that it also can be used from standard Windows applications such as Microsoft Office.

Another variation for printing over the Cloud is to have only the print processing of the documents done on the Cloud server. The print data is then issued to the selected printer via Wi-Fi or Bluetooth, over the app and the user's mobile device.

Mobile Printing over

Output Management Systems (OMS)

Many businesses use Output Management solutions from specialized systems providers in order to efficiently operate their decentralized print infrastructures. Some of these systems also offer opportunities for integrating mobile devices in OMS. The documents to be printed are mostly transmitted with the OMS provider's app to an output management server. Access occurs either over the company network (Wi-Fi) or over a VPN client to the mobile device.
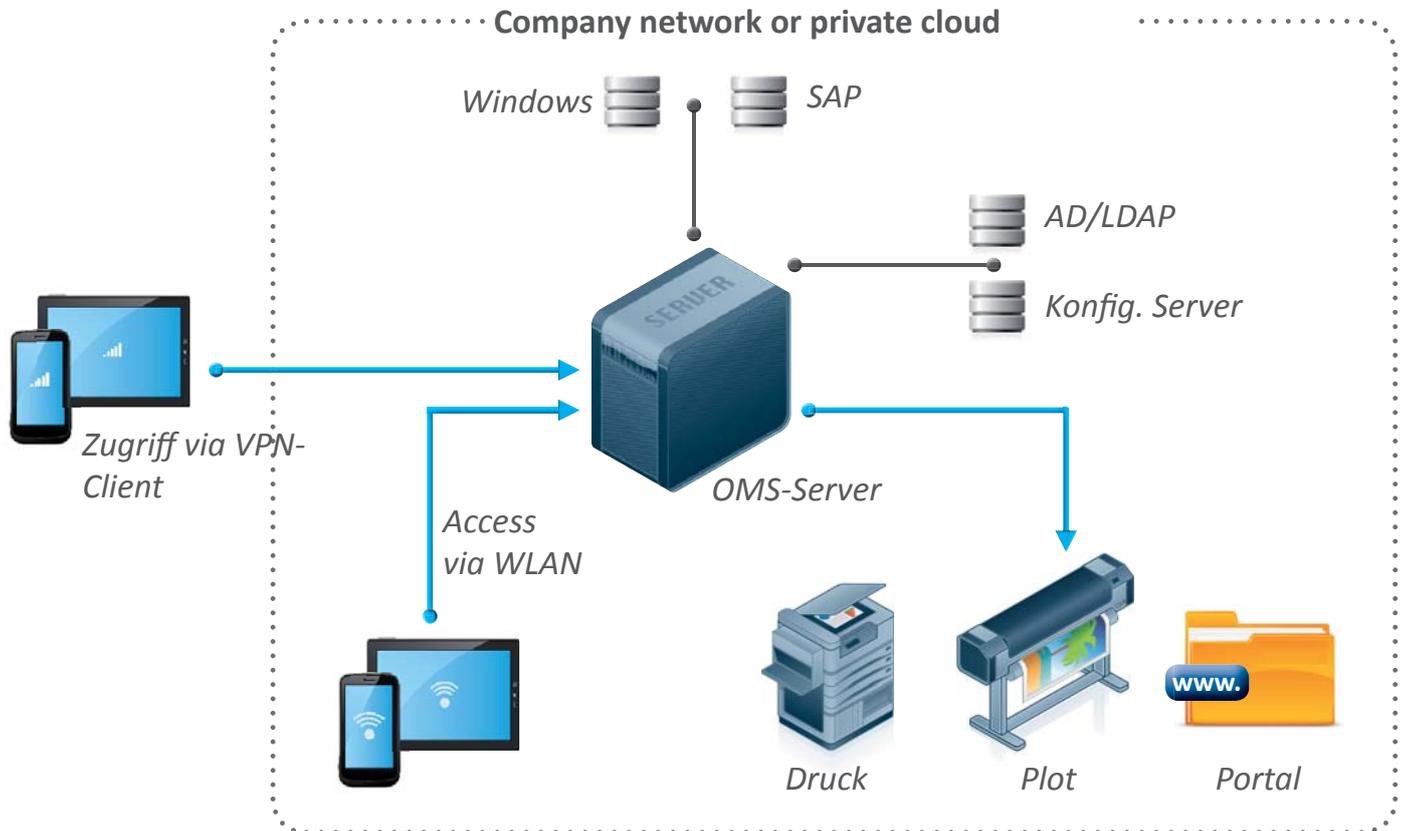
The apps also offer different output options, most of them configurable to customer specifications. The OMS takes over the conversion and the spooling of the print order, and directs these to the desired printer for output. Output management systems normally offer a broad range of additional features involving printing and print management infrastructure. The output management server is

operated mostly as a physical or virtual in-house server. However the solution can also be installed as private Cloud concept (see illustration on the following page).

Finding the Ideal Solution:

Which Factors Should Businesses Keep in Mind?

Generally, real life experience has determined that no one solution leads all the rest in all factors. As with many other things, whether or not a solution is suitable depends strongly on the customer's requirements profile. The saying "buy cheap, buy twice" doesn't necessarily apply to mobile printing concepts. Nevertheless, every company looking into the implementation of a mobile printing strategy should have a series of criteria for choosing the right solution. We've included suggestions below for a list of questions, with model subaspects to be examined when evaluating the decision to implement.

Company network or private cloud

Windows 　　SAP

AD/LDAP

Konfig. Server

SERVER

OMS-Server

Zugriff via VPN-Client

Access via WLAN

Druck　　Plot　　Portal

With mobile printing over an output management system the transmission of the print order is carried out via VPN client or Wi-Fi.

The solution options in respect to these criteria are shown in the matrix found on the last page. Please note that this matrix shows project experiences based on real life, and should serve only as an initial orientation for the reader.

8 Questions that Businesses Should Ask Themselves

1. Is the solution device-neutral?

- Does the solution cover only certain types of printers and brands, or does it work with all devices?

- Does the solution function only on mobile devices of certain manufacturers or over all mobile platforms?

2. Which management opportunities does the solution offer?

- How efficiently can the solution be rolled out and updated?

- Does the solution support mobile device management?

- Does the solution have capabilities for central configuration and rights management?

- Is it possible to centrally monitor print orders, treatment processes and malfunctions? Does it have direct troubleshooting capabilities?

- Can the solution record printing costs?

3. Which level of security does the solution guarantee?

- Do documents/print orders leave the company network during printing processes? If yes, is a public or private Cloud server used?

- Can the entire transmission from mobile device to printer be encrypted?

- Does the solution have integration capabilities for user directories (Active Directory / LDAP)?

- Must special ports in the Firewall be opened to operate the solution?

4. Which print quality does the solution ensure?

- Are the original applications or third-party interpreters used for print data processing?

- Does the solution guarantee a consistently flawless print image with all document types and printers used?

5. Which infrastructure requirements does the solution need?

- Is the purchase of a server/software system necessary to use the mobile printing solution?

- Do the mobile devices require VPN clients?

- Do the necessary mobile devices and printers have special protocols which must be compatible?

- Must the solution be introduced as an additional solution parallel to the existing print infrastructure, or can it be integrated into it?

6. Which scope of services does the solution offer?

- Which types of documents are supported?

- Which types of printers are supported?

- Which output options does the solution offer?

- Which additional features does the solution offer (for example secure and pickup printing, printer search according to location […])?

- Does the solution offer sufficient performance for the intended use?

- Is this a single solution for mobile printing or can it also be used for other areas in the business (e.g. ERP printing, Windows printing, terminal server printing, print management, etc.)

7. How flexible is the solution to configure and use?

- Are customer-specific adaptations possible (e.g. output options)?

- Can special company fonts or Unicode characters also be displayed?

- Is rules-based printing possible (e.g. based on AD/LDAP)?

- Does the solution have a suitable scaling concept for your company structure?

8. What are the total initial costs?

Summary

For businesses with large and/or complex print environments and high demands on business-grade administration and security concepts, professional output management providers offer the most fully-developed solution. Nevertheless, this brings with it high initial costs and infrastructure requirements. Given the diverse usability of these systems, an implementation of an OMS can bring sustainable use in many areas of the business. If the company already uses an OMS, the cost factor is modified significantly, as the module can then be obtained with little integration effort and can lower additional licensing costs for mobile printing.

For small and mid-sized businesses, the remaining options can in many cases provide a sufficient and partially cost-efficient solution. The questions of committing to an intense manufacturer dependency, and what the selection of printer and/or the mobile device involves, are things that every company must answer for themselves. If a mobile print solution has high functional and safety requirements, the use of an output management system can be well worth it for mid-sized and even small businesses.

Abbreviations used:

- *OMS = Output Management System*

- *AD = Active Directory*

- *LDAP = Lightweight Directory Access Protocol*

	OEM-Lösungen Ausgabegeräte	OEM-Lösungen Mobilgeräte	Cloud Printing Services	Output Management Systeme
Hardware-unabhängigkeit	-	-	+	+
Verwaltungs-möglichkeiten	o	-	-	+
Sicherheit	o	o	o	+
Druckqualität	+	+	+	+
Infrastruktur	o	o	o	o
Leistungsumfang	o	o	o	+
Flexibilität	o	-	-	+
Kosten	o	+	+	-

- je nach Anforderungsprofil nicht geeignet/nicht vorhanden
o abhängig vom Anforderungsprofil ggf. passend
+ für alle Anforderungsprofile geeignet

Suggested solution approaches for mobile printing in comparison

	OEM solutions Output devices	OEM solutions Mobile devices	Cloud printing services	Output Management systems
Hardware independence	-	-	+	+
Management options	o	-	-	+
Security	o	o	o	+
print quality	+	+	+	+
Infrastructure	o	o	o	o
Scope of services	o	o	o	+
Flexibility	o	-	-	+
Costs	o	+	+	-

- not suitable/not available, depending on requirements profile
o possilby suitable, depending or requirements profile
+ suitable for all requirements profiles

Questions?

SEAL Systems
info@sealsystems.com