TBarCode/SAPwin

Barcode DLL for SAP ERP and R/3
(SAPsprint, SAPgui, SAPlpd)

White Paper

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Barcode DLL for SAP®

Requirements

Maybe you need to print bar codes from within your SAP® ERP or R/3® system because of one of these reasons:

- you are interested in optimizing internal workflows
- your customers requires them on shipping documents
- your document management system requires bar-codes
- other generic supply chain requirements
- and so on…

Bar-code technology is in wide-spread use – world wide - but printing them in the required quality is not as easy as it seems at the first glance.

How to print Barcodes?

- Using Barcode-enabled Printers

Of course – it's a solution. But only if you don't care that you are bound to specific printer models. Moreover - maybe you have to replace your existing printers. Or you are forced to mix printer models – with all negative implications like different print-outs and increased development and maintenance efforts.

- Use special Bar-coding Hardware/Extensions

This is another solution: You can upgrade your printers with special hardware. And you have to pay for this upgrade - for each printer. If you change printer models you have to pay again. Finally - if there are new barcodes (like GS1 DataBar or 2D codes) you are forced to spend a lot of money the third time.

- **Using the BARCODE.DLL TBarCode for SAPwin**

Using *TBarCode for SAPwin* is the most flexible and most cost effective solution. *TBarCode/SAPwin* conforms to SAP's specification of a BARCODE.DLL and enables you to choose freely between printer models at any time. The software can be updated easily – so it is possible to use new barcode techniques whenever they arise. *TBarCode for SAPwin* is supported by a professional team. Simply contact TEC-IT's support staff and we will help you to embed barcode techniques into your project.

TBarCode for SAPwin can be used for frontend printing as well as on server-side. It is compatible with the following SAPWIN based technologies:

- SAPsprint
- SAPgui (host spool method G)
- SAPlpd
- SAPwin.DLL

In addition it can be used with
- EH&S WWI (SP31 or higher)

- Barcode.DLL for SAP

- For SAPsprint, SAPGUI, SAPlpd and SAPwin.DLL

- All Windows Printers

- No Hardware Extensions

- Minimal Cost of Ownership

Highlights

TBarCode for SAPwin enhances SAP[®] ERP and R/3[®] based systems with unlimited bar-coding features. It is a pure software solution and prints barcodes on all printers supported by Microsoft[®] Windows[®]. No expensive hardware extensions are needed.

TBarCode for SAPwin is installed as an extension to SAPlpd, SAPsprint or SAPwin.DLL (printing components developed by SAP) and enhances these software components with full-featured bar-coding functionality. Client based installations as well as server based scenarios are supported by *TBarCode for SAPwin*.

Minimal Cost of Ownership

The transparent licensing scheme enables you to put a cost effective bar-coding solution into operation.

Easy to Install & Maintain

TBarCode for SAPwin is extremely easy to install and maintain. Simply install it on your computers – no maintenance of your printers is required.

SAP[®] R/3[®] Release Independent

TBarCode for SAPwin is installed as an extension to SAPlpd, SAPsprint or SAPWin.DLL. The release level of the SAP[®] application server is irrelevant.

No forced Printer Upgrades

TBarCode for SAPwin does not force you to upgrade your printers.

Printer and Hardware Independent

Turn virtually all printers available on the market into bar-coding machines. *TBarCode for SAPwin* works seamlessly with all printers supported by Microsoft[®] Windows[®].

All Linear and 2D Barcodes are supported

TEC-IT Datenverarbeitung GmbH is a well-known supplier of bar-coding software. *TBarCode for SAPwin* supports more than 100 symbologies.

Unified Barcode Interface

TBarCode for SAPwin unifies bar-coding among different printer models. No device-specific work or device-specific customization is required.

Perfect Barcode Quality

TBarCode for SAPwin generates crystal-clear barcodes with perfect readability.

- Easy Maintenance
- All Windows Platforms
- Seamless Integration
- No Printer Upgrades
- Cost Saving

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References

Selected References

TEC-IT Datenverarbeitung GmbH, located in Austria, Europe is the technology leader in the area of bar-coding tools for Microsoft® Windows®, LINUX®, UNIX® and SAP®.

TEC-IT supplies perfect product quality, the support of complex barcode symbologies like QR-Code, Data Matrix and GS1-Composite and outstanding customer support.

Some selected references in the area of SAP® ERP and R/3® bar-coding:

- Aker Kvaerner Business Partner AS, Norway
- BDF Hellas S.A (Beiersdorf), Greece
- City of Tacoma, United States
- Coca-Cola Helenic Bottling Company SA, Greece
- General Motors, Brazil
- Goodrich Aerospace, Germany
- Ericsson, Sweden
- Flughafen München GmbH, Germany
- Hitachi High Technologies, Germany
- Hyundai Engineering & Construction, South Korea
- Infineon, International
- L'Oreal, Netherlands
- Lucent, United States
- Magna, Austria
- Mitsubishi Heavy Industries, Ltd., Japan
- E.ON, Hungary
- Pirelli, International
- Saint-Gobain, International
- Sony Shanghai, China
- Siemens, International
- Tamimi Co. Division Food, Saudi Arabia
- Tellabs Operations, Inc., Unites States
- Toyota Motorsport GmbH, Germany
- ThyssenKrupp, International
- United States Navy, United States
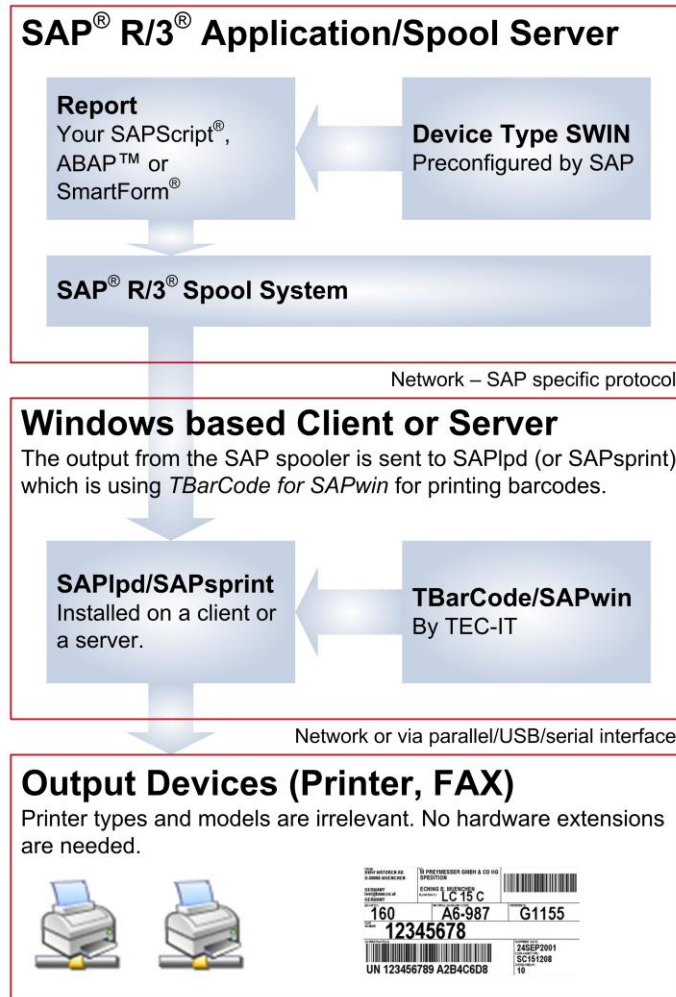- Westinghouse Electric Company, LLC, United States

- For all Industries

- In use Worldwide

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Functional Principle

Printing Process

The SAP® ERP (or R/3®) spool-server sends the print job via network to the client (which may be a print-server too).

SAPsprint, SAPgui or SAPlpd receives the print-job and processes it.

Whenever a barcode specific printing request is detected, *TBarCode for SAPwin* is called automatically by the SAP printing component. The barcode is generated according to the barcode-specific parameters defined within the SAP® system (Print Control). All these parameters are passed to *TBarCode for SAPwin*, providing full control over all barcode parameters.

- Unified Bar-coding among different Printers
- Local and Network- Printers
- Client and Server Installation

Release Independent

TBarCode for SAPwin is an extension for SAP® printing components like SAPsprint, SAPgui or SAPlpd. It does not depend on the SAP release in use.

Customizing Barcode-Printing

According to SAP Best Practice

TBarCode for SAPwin follows the SAP® standard procedures for printing barcodes (System Barcode ⇨ Printer Barcode ⇨ Print-Control).

System Barcode Definition

Define a System Barcode (or use an existing one). A System Barcode introduces a single barcode to SAP R/3. No device specific information is contained therein.

Transaction: **SE73**

Printer Barcode Definition

Define a Printer Barcode for a previously defined System Barcode. A Printer Barcode is Device-Type specific and controls the barcode-appearance (e.g. the barcode symbology to be used) via the so-called Print Controls.

Transactions: **SE73** *(printer barcodes)*, **SPAD** *(device types and print-controls)*

Output Device Definition

Define the output device (the printer). Such a printer uses a specific Device Type (a Device Type can be understood like a printer driver under Windows). It supplies the defined Print Controls to SAPscript (or SmartForms, ABAP) during runtime.

Transaction: **SPAD**

- Conforms to SAP® Standard Procedures

- No Programming required

- No special Skills required

Developing Barcode-Reports

All Reporting Methods supported

TBarCode for SAPwin works with reports developed in

- SAPscript®
- ABAP™
- SmartForms®

SAPscript Development

During the development of reports Character Formats for barcode printing are defined. Each System Barcode can be used in a Character Format. During print-time the device specific Printer Barcode (and the underlying Print Control) is used instead of the System Barcode.

Transactions: **SE73** *(System-Barcodes)*, **SE71** *(Character Formats and SAPscript)*

ABAP Development

Implement the controlling ABAP. This ABAP routione calls elements of the SAPscript for printing. It is also possible to develop a report using barcodes in ABAP directly (without SAPscript)

Transactions: **SE71** *(SAPscript)*, **SE38** *(ABAP)*

- With SAPscript®
- With ABAP™
- With SmartForms®

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The Complete Process

ABAP/SAPscript Report

Execute the ABAP and select the poutput device created above.
The ABAP calls some SAPscript elements one or more times

ABAP
Tranaction *SE38*

SAPscript
Transaction *SE71*

Spooling in SAP

The SAP spool system translates the output into output device specific commands. This is done with the help of the Device Type (the device driver). The System Barcodes contained in the report are replaced with device-specific Print Controls of the Printer Barcode.

Print Controls
Transaction *SPAD*

Printer Barcodes
Transaction *SPAD*

SAP R/3 Spooler

Device Types
Transaction *SPAD*

Network – SAP specific protocol

Windows based Client or Server

The output from the SAP spooler is sent to SAPlpd (or SAPsprint) which is using *TBarCode for SAPwin* for printing barcodes.

SAPlpd/SAPsprint
Installed on a client or a server.

TBarCode/SAPwin
By TEC-IT

Network or via parallel/USB/serial interface

Output Devices (Printer, FAX)

- Integrates into SAPlpd, SAPsprint, SAPWin.DLL
- Front End Installation
- Server Operation

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Datasheet General

General	
SAP® R/3® 4.6 B or higher	✓
mySAP ERP (ECC 5.0) or higher	✓
SAP® ERP (ECC 6.0)	✓
Costs per printer	None
Costs per user	None
Computing resources required (e.g. CPU-time on the SAP® application server)	None
Additional programming required	None
Additional hardware required	None
64 Bit Version available	✓
Unicode Interface	✓
Software required	SAPsprint, SAPgui or SAPlpd (all from SAP®)
Operating systems	Microsoft® Windows® XP or higher; 32 Bit and 64 Bit systems are supported

Output Devices	
Printer types or models	All printers usable with Microsoft® Windows®
FAX-Solutions	Working with SAPsprint, SAPgui or SAPlpd

Adjustable Parameters	
Module width (narrow bar width)	✓
Bar-width reduction (Inkjet-Printers)	✓
Symbol height / Symbol size	✓
Human readable text	✓
Rotation	✓
Other barcode specific parameters	✓

Check-Digit Computation	
TBarCode for SAPwin computes all check-digits automatically. No programming is required.	✓

- Automatic Check-Digits
- Perfect Output Quality
- Extensive Barcode Support

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Supported Linear (1D) Barcodes

Barcode Symbology	
Code 128 (auto-compress)	✓
Code 128 Character Set A	✓
Code 128 Character Set B	✓
Code 128 Character Set C	✓
Code 2 of 5 Industrial	✓
Code 2 of 5 Interleaved	✓
Code 2 of 5 Matrix / Code 2 of 5 Standard	✓
Code 39 (Code 3 of 9)	✓
Code 39 Extended (Full ASCII)	✓
Code 93	✓
Code 93 Extended (Full ASCII)	✓
Codabar	✓
EAN13	✓
EAN13 + 2 digits add on	✓
EAN13 + 5 digits add on	✓
EAN-14	✓
EAN8	✓
EAN8 + 2 digits add on	✓
EAN8 + 5 digits add on	✓
UPC-A	✓
UPC-A + 2 digits add on	✓
UPC-A + 5 digits add on	✓
UPC-E	✓
UPC-E + 2 digits add on	✓
UPC-E + 5 digits add on	✓
UCC/EAN-128	✓
Serial Shipping Container Code (AI0)	✓
MSI	✓
OMR-Code / Flattermarken	✓
Pharmacode 1-Track	✓
Pharmacode 2-Track	✓
USPS Postnet 5 digits	✓
USPS Postnet 9 digits	✓
USPS Postnet 11 digits	✓
Australia Post 37-Customer (Australian Post Customer)	✓
Australia Post 52- Customer (Australian Post Customer 2)	✓
Australia Post 67- Customer (Australian Post Customer 3)	✓
Australia Post REPLY Paid	✓
Deutsche Post Identcode	✓
Deutsche Post Leitcode	✓

- More than 60 Barcodes supported
  - Linear Barcodes
    - 2D Barcodes
- Composite Barcodes

Barcode symbologies are extended continuously. Please contact TEC-IT if a barcode type not listed here is required.

Supported Complex Barcodes

2D Barcodes (High Density)

Barcode Symbology	
PDF417[*]	✓
PDF417 Truncated[*]	✓
Data Matrix[*]	✓
MaxiCode[*]	✓
QR-Code[*]	✓
Codablock F[*]	✓
MicroPDF417[*]	✓

*: needs 2D license (not included in 1D license)

GS1 DataBar Symbologies

Barcode Symbology	
GS1 DataBar (RSS-14)	✓
GS1 DataBar Limited	✓
GS1 DataBar Truncated	✓
GS1 DataBar Stacked[*]	✓
GS1 DataBar Stacked Omni[*]	✓
GS1 DataBar Expanded	✓
GS1 DataBar Expanded Stacked[*]	✓

*: needs 2D license (not included in 1D license)

GS1 Composite Symbology

Barcode Symbology	
GS1 DataBar Composite Symbology (CC-A/B)[*]	✓
GS1 DataBar Limited Composite Symbology (CC-A/B)[*]	✓
GS1 DataBar Truncated Composite Symbology (CC-A/B)[*]	✓
GS1 DataBar Stacked Composite Symbology (CC-A/B)[*]	✓
GS1 DataBar Stacked Omni Composite Symbology (CC-A/B)[*]	✓
GS1 DataBar Expanded Composite Symbology (CC-A/B)[*]	✓
GS1 DataBar Expanded Stacked Composite Symbology (CC-A/B)[*]	✓
EAN-8 Composite Symbology (CC-A/B)[*]	✓
EAN-13 Composite Symbology (CC-A/B)[*]	✓
UPC-A Composite Symbology (CC-A/B)[*]	✓
UPC-E Composite Symbology (CC-A/B)[*]	✓
EAN-128 Composite Symbology (CC-A/B/C)[*]	✓

*: needs 2D license (not included in 1D license)

Barcode symbologies are extended continuously. Please contact TEC-IT if a barcode type not listed here is required.

TBarCode / SAPwin

- More than 100 Barcodes supported
- Linear Barcodes
- 2D Barcodes
- Composite Barcodes
- VDA/BeloM-compliant (PDF417)

Licenses

Free Demo License

TEC-IT Datenverarbeitung GmbH offers an unlimited demo-version of *TBarCode for SAPwin* free of charge. All barcode types are supported – without any restrictions. The barcodes generated by the demo-version are marked with an additional small text denoting the use of the demo version – but the barcodes are usually still readable with barcode scanners or decoding software.

To install the demo version download *TBarCode for SAPwin* from http://www.tec-it.com and install it with a few mouse-clicks.

Site License

This license permits the installation of *TBarCode for SAPwin* within one company on exactly one site (or subsidiary) on up to 250 clients or 250 concurrent users. Multi-site companies need multiple site licenses, i.e. one site license for each site where the product is used.

Enterprise or World License

This license permits unlimited number of installations worldwide (within one enterprise).

Single License

Is installed on exactly one computer and can be used with local printers only (no shared or network printers). The installation is checked by verifying the serial number of the hard drive (=System ID). If the hard disk fails or needs reformatting a new license key will be submitted free of charge.

Pricing

Actual pricing can be found on http://www.tec-it.com/order/

- No Costs per User
- No Costs per Printer
- Simple Licensing

Contact Information

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