Expertise for biometric solution

Biometrics – Solutions from Kaba

Kaba is the leading manufacturer for biometric solutions in time and attendance, shop floor data collection and access control.

From the large number of possible biometric methods, Kaba has decided in favor of fingerprint recognition as the identification method. It has been accepted as the most popular method among users and as the leading biometric method on the market.

Convenience, no forgotten badges, clear identification, and the avoidance of misuse are just some of these advantages. Biometrics offers you the opportunity of achieving a clear reduction in costs without loss in security.

The advantages obtained by using biometrics benefit more and more customers from all economic sectors. They include, for example, manufacturing, trade, banking, public administrations, food industry, hospitals, and aviation. Do you want to benefit too from the advantages of biometrics in your future data collection?

Kaba offers you a comprehensive range of products with which you can implement your global biometric data collection in your company. The B-Net and B-web terminal series form the focus of this range; they can be delivered with a fingerprint reader.

With the integration platform B-COMM Java – Option Biometrics we offer you the communication structure for the intelligent administration and distribution of all fingerprint data to the terminals connected, irrespective of whether they are at one or several sites.

Alternatively, the finger template is stored on a personal RFID badge during verification.

Kaba has many years of expertise for the realization of efficient biometric solutions!

Functioning of the fingerprint method

Digital image of a fingerprint showing the minutiae recognized and used by the system.

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The minutiae are transformed via an algorithm and stored as a reference template.

The careful recording of the fingerprint, which is saved as a reference print, ensures a perfect and quick functioning of the biometric solution in the entire system.

How does biometric recognition with fingerprints work?

The concept is easy. The biometric reading unit creates a digital image of a fingerprint based on unique features of the individual fingertip. This so-called finger template is created with the help of a complex mathematical algorithm and stored as a reference. If an employee now wants to identify himself at a booking terminal, the currently scanned fingerprint is compared with the previously stored reference finger template and if it tallies with this, authorization is given. With this so-called matching procedure, the comparison is done on the basis of digital values as a visual image of the fingerprint is not stored for data protection reasons. This proven and recognized biometric procedure ensures that a person is identified clearly and in a legally binding manner.

Why is the precise capture (enrollment) of the reference template so important?

The most important prerequisite for a smooth and disruption-free operation of a biometric person recognition system is a high-quality reference finger template. To ensure this, not only a high-quality reading device is recommended for the first-time capture; two different fingers should also be precisely captured. This guarantees that even in the event of changes to one of the fingertips (e.g. injuries/grazing) or imprecise operation in day-to-day practice reliable recognition is still possible.
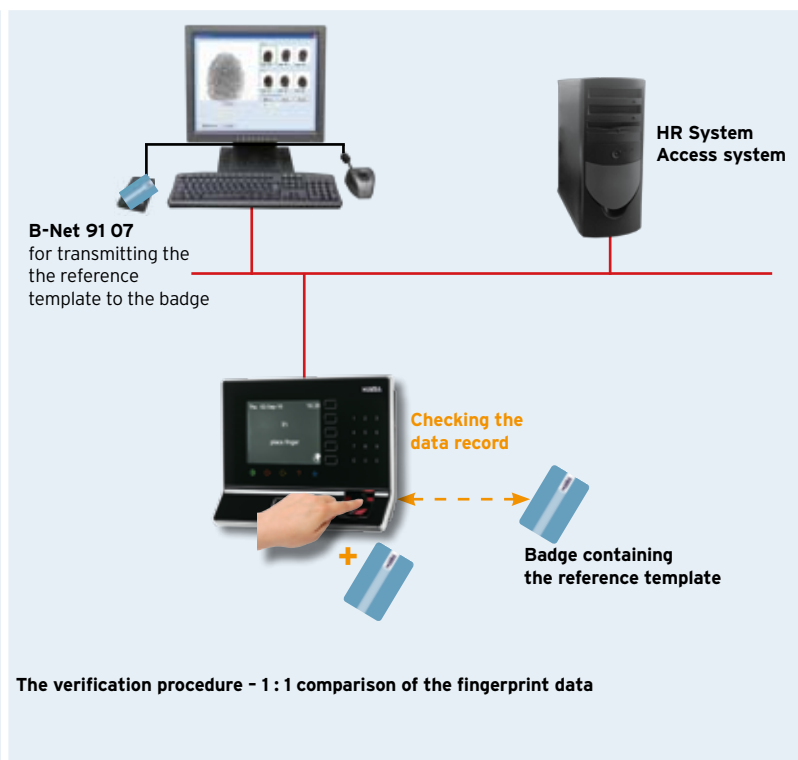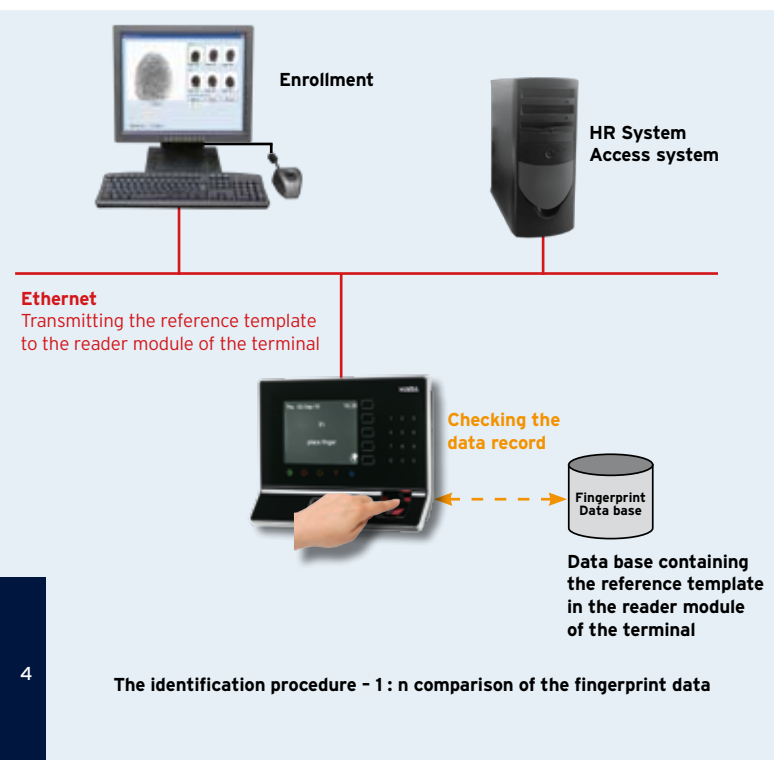

Max Schlatterer GmbH & Co. KG, Germany
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«The functionality and the quality of the Kaba terminals convinced us. We are certain that they will provide a good service for a long time. Our expectations in biometrics have been met in their entirety. The devices work perfectly, and the system is easy to operate by everybody.

We now have a uniform system for time and attendance and access control without cards, which saves us a lot of time and money. Because there are no more costs for badges. Furthermore, it offers us a lot of options for the future.»

Achim Biker
Head of organisation

Functioning of the fingerprint method

Enrollment

HR System Access system

Ethernet
Transmitting the reference template to the reader module of the terminal

Checking the data record

Fingerprint Data base

Data base containing the reference template in the reader module of the terminal

The identification procedure – 1 : n comparison of the fingerprint data

B-Net 91 O7
for transmitting the the reference template to the badge

HR System Access system

Checking the data record

Badge containing the reference template

The verification procedure – 1 : 1 comparison of the fingerprint data

Identification

With the identification procedure, the reference finger templates are stored in the system. Here, the integration platform B-COMM Java – Option Biometrics not only supports the collection of the reference templates, it also assists in the intelligent management and distribution of all fingerprint data to the booking terminals connected.

If an employee now places his finger on the reading device, a so-called 1:n comparison is done. In other words, the finger template currently captured is compared with all the reference templates assigned to this terminal and if it matches, authorization will be issued.

With this convenient, badge-free procedure, each person identifies himself solely with his personal fingerprint so that costly and time-consuming badge management is no longer necessary.

Verification

With verification, the personal reference template is stored on a RFID media when the data are captured for the first time and the respective person must carry this RFID media with him.
A storing and distribution of these data in the system is not necessary; each person is thus responsible for 'his' personal biometric data.

If a person now places his finger on the reading device, a 1:1 comparison is done in contrast to the identification. In other words, the personal reference template must first be read by the RFID medium in order to then be compared with the finger template currently captured. If both are the same, authorization is issued.

Verification represents a very fast and reliable form of recognition which can also be used in countries with very strict data protection provisions.

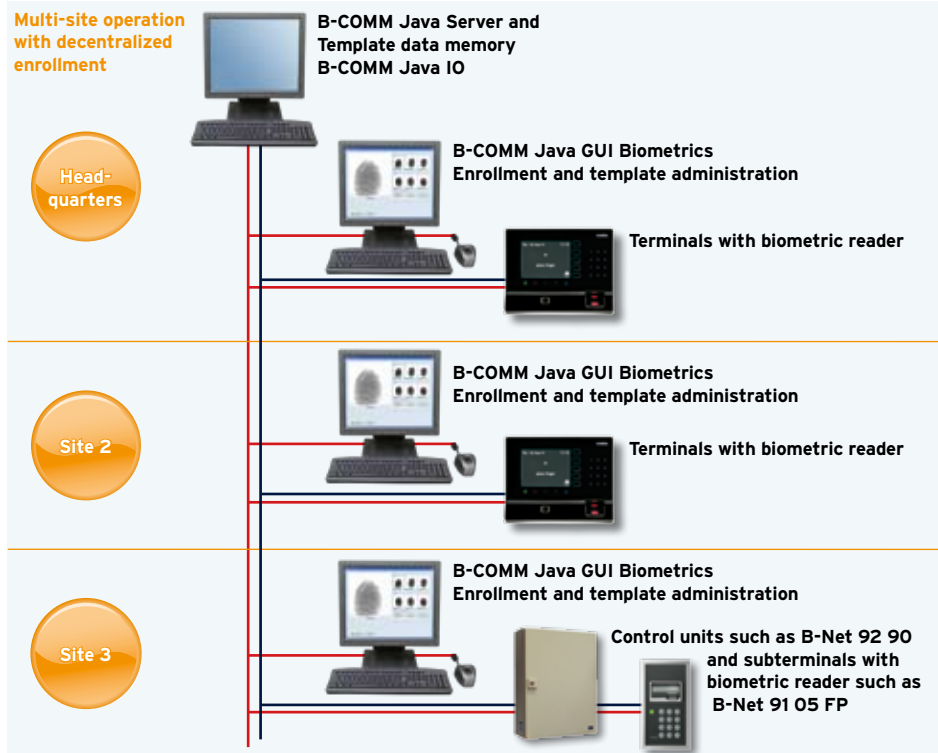# For communication – B-COMM Java Option Biometrics

With the integration platform B-COMM Java – Option Biometrics we offer you the communication structure for data exchange between the biometric terminals and the software application. Integrated into your IT structures, you can integrate one or all company sites into a holistic solution with B-COMM Java.

B-COMM Java Option Biometrics is hardware- and operating system-independent, has a modular structure and is configured according to your requirements. In order to achieve high data security for biometric data, B-COMM Java is typically installed on a server located in a protected area.

In your biometric collection system, B-COMM Java takes over:
- the integrated template management for the overall system
- the central finger enrollment (first-time reading of a fingerprint)
- the intelligent administration and distribution of all fingerprint data to the connected terminals, irrespective of whether at one site or at several distributed sites, including international sites
- management for a mixed operation of terminals with RFID and biometric readers

B-COMM Java offers you the flexible distribution of the finger templates to the places in the company at which they are required for functions of access control, time and attendance and shop floor data collection.

Multi-site operation with decentralized enrollment

B-COMM Java Server and Template data memory B-COMM Java IO

Head-quarters

B-COMM Java GUI Biometrics Enrollment and template administration

Terminals with biometric reader

Site 2

B-COMM Java GUI Biometrics Enrollment and template administration

Terminals with biometric reader

Site 3

B-COMM Java GUI Biometrics Enrollment and template administration

Control units such as B-Net 92 90 and subterminals with biometric reader such as B-Net 91 05 FP

The communication of useful data such as booking data is always done separately and independently of the biometrics. In practice, the following scenarios have emerged for the template distribution:

1. **Template distribution at one site**
   Here, B-COMM Java records all finger templates centrally and distributes them to the terminals.

2. **Multi-site operation with central enrollment**
   Typical installation in companies with a centralized HR department and other sites that are not far away from one another. Here, enrollment is done centrally. It is also possible to register at individual terminals locally.

3. **Multi-site operation with decentralized enrollment**
   Typical installation in companies with global operations that are separated from one another over a great distance or whose company divisions operate independently of one another. Here, each site or company division has its own biometrics administration which, however, are all connected to the centrally installed B-COMM Java server. This structure ensures maximum flexibility and guarantees that employees who travel between sites do not have to be re-registered at each site.

The range of products –
for your biometric solution

Our range of products for biometrics is a wide one. It incorporates terminals, subterminals with different control units and various components for the implementation of your requirements of a biometric data collection. The integration platform B-COMM Java – Option Biometrics also makes it possible to use existing RFID terminals from Kaba in mixed operation and thus continue to use, for example, an existing badge organization.

Kaba offers you the entire B-Net and B-web terminal series with a biometric sensor for the biometric collection as an identification solution and verification solution. This biometric module is characterized by its compact constructional design, optical reading system with long-term stability, and simple operation. As it is water- and dustproof, and can be operated in a large temperature range, it is ideally suited for being used even in rough conditions.

You can select the biometrics module with different capacities for the storage of templates. It can save up to 10,000 fingerprints.

The terminals with biometric module can be operated intuitively and safely by simple user guidance and have proven their effectiveness in the rough reality of daily life as a fast, convenient and secure means of data collection.

Through an interaction with the integration platform B-COMM Java – Option Biometrics, all the templates captured are distributed to the authorized terminals in the collection system and managed. All your employees can thus make uniform use of the benefits of biometrics at any site worldwide.

A broad range of products for different applications

The future of biometrics and its benefits

Kaba has opted for the fingerprint as the preferred biometric recognition system for good reason. In tests, it is characterized by its recognition performance compared to other systems, with a high level of security and the high degree of acceptance among users.

We are, of course, open to your requests and requirements as our customer when it involves the integration of other biometric systems in your solution. With our products and components, we are very well positioned for this.

Our know-how helps to integrate method such as iris recognition, vein biometrics or other technologies into the overall system. The integration platform B-COMM Java also supports the communication between the biometric application and the higher-level application system here.

In the future, too, we will be analyzing the developments with biometric systems very precisely so that we can offer you the use of new technologies in our products in a timely manner.

Your benefits at a glance
- Use in any applications of data collection

- Biometric traits cannot be forgotten, lost, spied upon or stolen.

- Simple handling with high acceptance

- Legal certainty - who identified themselves when

- Option to select between identification and verification solution

- Data protection through non-reconstructable fingerprints

- No buddy punching possible

- Cost savings
  - No badges
  - Fewer erroneous bookings
  - Fewer booking corrections
  - No loss of media

KABA®