Contract Modification Document

Vendor:	dormakaba Workforce Solutions, LLC	Contract No.	2016-044
	3015 N. Commerce Parkway	Contract:	Access Control & Time Collection
	Miramar, FL 33025		

YOU ARE DIRECTED TO MAKE THE FOLLOWING MODIFICATION TO THIS CONTRACT

Add the following:

1. ITEM # 526-63-010 Implementation services - upgrade of b-comm for PeopleSoft	$	12,420.00
2. ITEM # 526-63-015 Project management - meeting time to deliver upgrade	$	828.00
3. ITEM # 526-63-011 Daily After Hours or Saturday Implementation Services 1-1/2X	$	-
4. ITEM # 526-63-012 Sunday Implementation Services 2X	$	-
	$	13,248.00

The original (contract sum) was. . . . . $ **423,974.00**

Net change to Amendment(s) (show $ plus, minus or unchanged)

Amendment No. 1	$	225.00
Amendment No. 2	$	3,150.00
Amendment No. 3	$	18,289.00
Amendment No. 4	$	185.00
Amendment No. 5	$	13,284.00
TOTAL AMENDMENT TO DATE	$	35,133.00

The new (contract sum) including this Amendment will be . . . . $ **459,107.00**

Except as provided herein, all terms and conditions of the contract remain in full force and effect and may only be modified in writing signed by both

Amendment No. 5 has been accepted and authorized by authority of Collin County Commissioners Court

by Court Order No. 2022-191-02-21 effective on 2/21/2022 .

ACCEPTED BY:

SIGNATURE _Mark Allen_
ACDD4A51BE0B47D...

Mark Allen
(Print Name)
TITLE: Head of dormakaba Workforce Solutions
DATE: 2/2/2022

SIGNATURE _Michelle Charnoski_
8195959E82F645E...

Michelle Charnoski, NIGP-CPP, CPPB
(Print Name)
TITLE: PURCHASING AGENT
DATE: 2/21/2022

HISTORICAL INFORMATION

Awarded by Court Order No. 2017-813-10-09

Amendment No.	1	Court Order No.	FYI	Summary	Item at a cost
Amendment No.	2	Court Order No.	FYI	Summary	Software Maintenance at a cost
Amendment No.	3	Court Order No.	2020-219-03-16	Summary	Items at a cost
Amendment No.	4	Court Order No.	FYI	Summary	Item at a cost
Amendment No.	5	Court Order No.	2022-191-02-21	Summary	Upgrade at a cost

dormakaba

Schedule A
Pricing

Reference is made to the Master Agreement for b-comm® ("Agreement") effective January 23, 2019, between Collin County ("Customer") and dormakaba Workforce Solutions LLC ("dormakaba"), the terms and conditions of which are incorporated by this reference.

Item#	1. Software Description	Unit	Qty	Unit Price	Total	Discount	Discount Unit Price	Total
	Base Licenses							
1.01								
1.02								
1.03						Software Total:	$	-

Item#	2. Annual Software Maintenance	Rate	Software Value	Total
2.01				
2.02				
2.03		Annual Software Maintenance Total:	$	-

Item#	3. Professional Services	Hours	Rate	Discount	Discount Rate	Total
3.01	526-63-010 Implementation services - upgrade of b-comm for PeopleSoft	60	$230	10%	$207	$ 12,420.00
3.02	526-63-015 Project management - meeting time to deliver upgrade	4	$230	10%	$207	$ 828.00
3.03	526-63-011 Daily After Hours or Saturday Implementation Services 1-1/2 X	TBD	$345	10%	$311	$ -
3.04	526-63-012 Sunday Implementation Services 2 X	TBD	$450	10%	$405	$ -
3.05				Professional Services Total:		$ 13,248.00

Item#	4. Data Collection Hardware	Badge Reader	Quantity	Unit Price	Discount	Discount Unit Price	Total
4.01							
4.02							
4.03					Hardware Total:		$ -

Item #	5. Annual Hardware Maintenance	Quantity	Rate	Total
5.01				
5.02				
5.03		Annual Hardware Maintenance Total:		$ -

6.01	Sub-Total:	$	13,248.00
6.02	State Sales Tax:		$0.00
6.03	Freight:		N/A
6.04	Total:	$	13,248.00

Price Notes

Section 1 – Intentionally left blank.

Section 2 – Intentionally left blank.

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Schedule A
Pricing

Section 3 – Professional Services:

3.01: Implementation services is based on the delivered Schedule C Statement of Work Upgrade Request, attached separately.

3.02: Project management meeting time to cover the upgrade services.

3.03: After hours or Saturday implementation services. (Weekend standby is minimum 4-hours.) Added by additional Change Request if required.
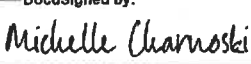
3.04: Sunday implementation services. (Weekend standby is minimum 4-hours.) Added by additional Change Request if required.

Section 4 – Intentionally left blank.

Section 5 – Intentionally left blank.

Section 6 - Totals:

6.02: All prices are quoted exclusive of State Sales Tax.

Accepted and agreed to:

Collin County

Signed: *Michelle Charnoski*
8195959E82F645E...

Name: Michelle Charnoski

Title: Purchasing Agent

Date: 3/14/2022

Awarded by Court Order 2017-813-10-09
Amendment No. 5 Court Order
2022-191-02-21
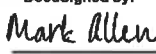
dormakaba Workforce Solutions LLC

Signed: *MVRaman*
2A3CC7BE99334B2...

Name: Muthuswamy Venkatraman

Title: Director of Software Development

Date: 3/17/2022

Signed: *Mark Allen*
ACDD4A51BE0B47D...

Name: Mark Allen

Title: Head of dormakaba Workforce Solutions

Date: 3/21/2022

dormakaba

b-comm® for PeopleSoft

SCHEDULE C

Statement of Work
Upgrade Request

Collin County
Drafted: October 21, 2021

dormakaba Workforce Solutions LLC
3015 N. Commerce Parkway
Miramar, Florida 33025
954.416.1720

dormakaba

Reference is made to the Master Agreement for b-comm® ("Agreement") effective January 23, 2019, between Collin County ("Customer") and dormakaba Workforce Solutions LLC ("dormakaba"), the terms and conditions of which are incorporated by this reference. This Upgrade Request defines the services to be provided in accordance with the terms and conditions of the Agreement and the original Statement of Work. The terms used herein will have the meanings set forth in the Agreement, unless otherwise defined herein.

General Project Information & Responsibilities:

1. All applicable costs for this Upgrade Request shall be indicated within Schedule A.
2. dormakaba will make a reasonable effort to kick off the project within 45 calendar days of contract execution and receipt of the applicable purchase order by dormakaba.
3. For the purpose of integration and testing, all rules and policies must be fully configured in the PeopleSoft Test environment before to the dormakaba b-comm project can begin.
4. The dormakaba team will provide an Upgrade Request Form to help surface technical environment changes. The completed and approved Upgrade Request Form and a current copy of your production b-comm database are both required for the upgrade process to continue.
5. Based on the duration of the project there can be weeks where no dormakaba resource activity is required. Such times will be communicated.
6. As quoted, all work will be performed during weekdays and during normal dormakaba business hours of 8:00 AM to 5:00 PM Eastern Time. Requested work performed on weekends and / or after hours will require a separate Change Request specifying the added cost and must be approved with no less than 14 days advanced notice.
   a. All work required outside of standard business hours will be billed as follows:
      i. All work after standard business hours will be billed at $311.00 per hour.
      ii. All work on Saturdays will be billed at $311.00 per hour, with a four-hour block minimum for each weekend day.
      iii. All work on weekends will be billed at $405.00 per hour, with a four-hour block minimum for each weekend day.
   b. Holidays: Out of respect to our dormakaba employees and families, dormakaba will not schedule work or travel on a Holiday or Holiday weekends.
7. All design, configuration and consulting will be provided remotely using teleconference or web conference tools.
8. All configuration will be entered in a Test environment and requires customer approval before migrating the configuration to a Production environment.

Customer Initials _MC_

dormakaba Initials _MV_
dormakaba Initials _MA_

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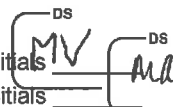# Upgrade Request

Project Inclusions:

Upgrade Request	Customer Specific Request

Customer is requesting assistance to upgrade their OnPremise b-comm for PeopleSoft solution to the most current version.
   •   The OnPremise b-comm Test environment will be updated or created as a new environment.
   •   The OnPremise b-comm Production environment will be updated or created as a new environment.
All b-comm configuration will remain the same.	

Customer Deliverable	dormakaba Deliverable
Overall Upgrade Project • Provide project requirements. • Create use case examples and test plans. • Test configuration. • Production Cutover Support.	• Provide consulting to meet the Project requirements of the customer within the scope of generic product capabilities. • Document changes in a Configuration Guide. • Train b-comm administrators on configuration specific to this Upgrade Request. • Production Cutover Support.
OnPremise Test Environment • Provide properly sized server environment(s) based on the dormakaba Environment Guide (Schedule D). • Ensure network connectivity to all b-comm components, including target HCM / ERP system. • Install and configure all dormakaba terminals or other data collection methods to ensure network connectivity and operation prior to go-live.	• Provide a b-comm Environment Guide (Schedule D) with recommendations for properly sized server environment based on the number of users, and terminal connections. • Assist with execution of the dormakaba b-comm installation program to upgrade the b-comm application and database.
OnPremise Production Environment • Provide properly sized server environment(s) based on the dormakaba Environment Guide (Schedule D). • Ensure network connectivity to all b-comm components, including target HCM / ERP system. • Update configuration of dormakaba terminals or other data collection methods to point to production environment. • Execution of the dormakaba b-comm installation program to upgrade the b-comm application and database.	• Provide a b-comm Environment Guide (Schedule D) with recommendations for properly sized server environment based on the number of users, and terminal connections.

Project Exclusions:

Anything not specifically stated within the Project Inclusions of this Upgrade Request will not be delivered unless requested through an additional Change Request.

Customer Initials _MC_

dormakaba Initials _MV_
dormakaba Initials _Ml_

dormakaba⟋

Upgrade Request

Acceptance

Please indicate your acceptance of this Upgrade Request by signing it below.

ACCEPTED AND AGREED TO:

Collin County

By: *Michelle Charnoski*
    ─8195959E82F645E...

Print Name: Michelle Charnoski

Title: Purchasing Agent

Date: 3/14/2022

Awarded by Court Order 2017-813-10-09
Amendment No. 5 Court Order
2022-191-02-21

dormakaba Workforce Solutions LLC

By: *MVRaman*
    ─2A3CC7BE99334B2...

Print Name: Muthuswamy Venkatraman

Title: Director of Software Development

Date: 3/17/2022

By: *Mark Allen*
    ─ACDD4A51BE0B47D...

Print Name: Mark Allen

Title: Head of dormakaba Workforce Solutions

Date: 3/21/2022

Customer Initials [MC]

dormakaba Initials [MV]
dormakaba Initials [MA]

dormakaba‑‑

b-comm® for PeopleSoft
(OnPremise)

SCHEDULE D

Environment Guide

Prepared for: **Collin County**
Dated: **October 21, 2021**

Premise:
- **1,600 b-comm Time Reporters**
- **95 dormakaba Terminals**

SCHEDULE D – b-comm Environment Guide

Table of Contents

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b-comm Server Requirements

b-comm software is based on a multi-tier architecture consisting of the b-comm application server and the b-comm database server. The requirements for this environment are:

- Database Server(s) and Application Server(s) must be separate Servers
- Database Server(s) and Application Server(s) must reside in the same data center, see details below.
- The Operating System on the Application and Database Server(s) must adhere to the supported Operating Systems listed in the respective sections below
- The Database Software on the Database Server(s) must adhere to the supported Database Software listed below
- Any Virtualization Software must adhere to the supported Virtualization Software listed below

b-comm Application Server

The b-comm application server runs the servers and services required by b-comm to send, receive and process data. The b-comm application server acts as the front-end system for employees, supervisors and administrators via the web and also receives the data from time clock devices. This server is also capable of interacting with third party systems (ERP, Payroll, HR, IVR) via web services, HTTP / HTTPs, flat file exchange or DB polling.
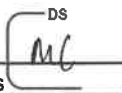
The b-comm application server can run on Microsoft Windows Server 2016 Standard and Datacenter Editions, Windows Server 2019 Standard and Datacenter Editions, and Red Hat Enterprise Linux version 7. Microsoft Windows and Red Hat Linux architectures are supported on x64 architecture.

b-comm is an Enterprise Java Application and requires Java Runtime and a Java Application Server to run. The system supports Oracle's Java Development Kit (JDK) versions 8 & 11 and Oracle Open JDK versions 11 & 13. The application server supports WildFly Application Server versions 10 or 15 and Jboss EAP version 7.0 provided by Red Hat (available in commercial and free versions) and Oracle WebLogic version 12c Application Server provided by Oracle.

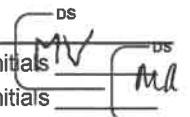### b-comm Application Server: Recommended Configuration

- Quantity: 1
- Processor: 3.2 GHz Intel Xeon class Processor with Quad Core
- Memory: 24 GB Memory
- Storage: 6 – 10 GB needed for the application and logs
- OS: Microsoft Windows Server 2019 Standard or Datacenter Edition
- Java App Server: Oracle WebLogic 12c Application Server or
  WildFly 15 Application Server

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b-comm Application Server Considerations

Server Allocation:

In certain large time clocks based environments, b-comm server should be split into several tiers, for example, one for web timeclock and mobile users, one for clock users and one for services. Each tier can be composed of multiple servers clustered together.

Operating Systems:

Although 32-bit operating systems are supported, dormakaba recommends 64-bit operating systems for production environments. The Java Development Kit used to run the application server should also be 64-bit.

Memory Allocations:

The Max Java Memory (Xmx) should be one half to two thirds of the physical RAM available. The Max Permanent Java Memory (PermGen) should be 512 MB. Please consult your Enterprise Java Application Server documentation from the respective vendors on setting these parameters.

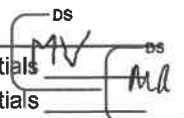**Connection Pool – Oracle WebLogic Application Servers:**

The following database connection calculations will allow for a smoother, performance oriented operation of the dormakaba Application. The connections will need corresponding configuration on the database side to enable all the connections to be active at the same time. There are several ways to allocate connections:

1) Memory based calculations for connections in dormakaba applications are this: connections in the connection pool should be 1 connection for every 100 MB of max memory available. This means that if Xmx is 4096 then connections should be 400.
2) In a web, mobile or PC time clocks environment, there should be 1 connection available. So for example, given a 2000 user population, there can be a maximum of 30% concurrent connection that would require 600 connections. However, from experience with working with customers, concurrent requests usually are under 25%.
3) In a physical time clocks only environment, 1 connection per time clock plus 2% for admin connections. For example, if there are 400 time clocks then the server should have 400 connections plus 8 more for administrative functions.
4) In a mixed environment (web, mobile, PC time clocks, Physical Time Clocks), dedicate at least 1 server to time clocks, at least 1 app server to web and follow the steps given above.

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Thread Pool and Connection Pool – JBOSS Application Servers:

The following memory thread and database connection calculations will allow for a smoother, performance oriented operation of the dormakaba Application. The connections will need corresponding configuration on the database side to enable all the connections to be active at the same time. There are several ways to allocate threads and connections:

1) Memory based calculations for threads and connections in dormakaba applications are this: threads in the thread pool and connections in the connection pool should be 1 thread and 1 connection for every 100 MB of max memory available. This means that if Xmx is 4096 then threads should be 400 and connections should be 400.

2) In a web, mobile or PC time clocks environment, there should be 1 thread and 1 connection available. So for example, given a 2000 user population, there can be a maximum of 30% concurrent connection that would require 600 threads and 600 connections. However, from experience with working with customers, concurrent connections usually are under 25%.

3) In a physical time clocks only environment, 1 thread and 1 connection per time clock plus 2% for admin connections. For example, if there are 400 time clocks then the server should have 400 threads and 400 connections plus 8 more for administrative functions.

4) In a mix environment (web, mobile, PC time clocks, Physical Time Clocks), dedicate at least 1 server to time clocks, at least 1 app server to web and follow the steps given above.
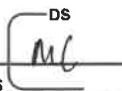
Reverse Proxy:

Customers can use an Apache or an IIS reverse proxy with the b-comm application. These reverse proxies have known to work. However, dormakaba does not provide support for the configuration of the reverse proxy server. In certain cases, where problems point towards issues in the reverse proxy environment, dormakaba will ask the customer to disable the reverse proxy server to eliminate the possibility of problems due to that server.
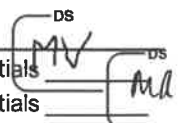
JDBC Drivers:

Please note that an appropriate version of the JDBC driver should be used that is compatible with the database server. In certain cases, the default JDBC driver available may not be compatible with the exact version of the database being used.

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b-comm Database Server

The b-comm database server can run on a variety of hardware platforms. Since dormakaba does not install any software on the database server, the list of possible hardware and operating system combinations includes all platforms supported by the RDBMS vendors. The system supports Oracle 12c, 18c or 19c, and Microsoft SQL Server 2016, 2017, or 2019 for the DBMS Software. Initial Database Size should be 6–8 GB per 1000 users, with 4-6 GB of growth per 1000 users per year. This storage estimate can vary greatly based on several conditions such as how often data is purged and what kind of data is purged.

b-comm Database Server: Recommended Configuration

- Processor: 3.2 GHz Intel Xeon class Processor with Quad Core
- Memory: 24 GB Memory
- Storage: 6-8 GB per 1000 users,
- Storage Growth: 4-6 GB of growth per 1000 users per year
- OS: Microsoft Windows Server 2019 Standard or Datacenter Edition
- DB: Microsoft SQL Server 2019 Standard or Enterprise Edition or
                    Oracle 19c Standard or Enterprise Edition

b-comm Database Considerations: Oracle Databases

Character Sets:
Unicode character sets are not necessary unless you have a specific requirement for multi-byte characters. Otherwise, select the default character set for your operating system.

Database Types:
For a pre-configured database type during instance creation, general purpose/transaction processing is appropriate.

Memory management:
Automatic memory management is the default and is the recommended choice.
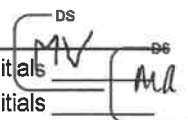
Memory Allocations:
When allocating memory for your Oracle database instance, your database server hardware is the most important factor. As a starting point it is recommended to allocate no more than 1/3 to 1/2 of the server's physical memory to the Oracle instance. On a database server which has multiple Oracle instances, the total amount of memory allocated to all instances should be added together, not to exceed 1/3 to 1/2 of physical server memory. Over allocating memory for the database can lead to a lack of memory for operating system functions. This causes paging or swapping which can severely degrade database performance.

Purges:

> The purge service should be run at regularly defined intervals. The intervals and the frequency of purges can be defined in the software based on your business' needs, and any regulatory requirements guiding your operations. Please refer to product documentation or consult with a dormakaba consultant on how to run the purge service.

Updating Statistics:

> Statistics should be updated on a regular basis, preferably daily during the least busy processing time, to ensure optimal performance.

Database Licenses:

> dormakaba recommends per CPU licenses, not named licenses for the database software

Most Common Problem:

> Most common database related problem with the b-comm application is running out of tablespace, dormakaba recommends turning auto extend on for oracle tablespaces.

b-comm Database Considerations: SQL Server Databases

Memory Allocations:

> When allocating memory for your SQL Server database instance, your database server hardware is the most important factor. As a starting point it is recommended to allocate no more than 1/3 to 1/2 of the server's physical memory to the SQL Server instance. On a database server which has multiple SQL Server instances, the total amount of memory allocated to all instances should be added together, not to exceed 1/3 to 1/2 of physical server memory. Over allocating memory for the database can lead to a lack of memory for operating system functions. This causes paging which can severely degrade database performance.

Purges:

> The purge service should be run at regularly defined intervals. The intervals and the frequency of purges can be defined in the software based on your business' needs, and any regulatory requirements guiding your operations. Please refer to product documentation or consult with a dormakaba consultant on how to run the purge service.

Updating Statistics:

> Statistics should be updated on a regular basis, preferably daily, in order to ensure optimal performance. It is not recommended to leave the default options of auto create statistics and auto update statistics turned on since SQL Server may update statistics during a busy time if it decides statistics are stale, and possibly slow down your processing. It's best to configure a maintenance job to update statistics during the least busy processing time.
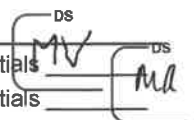
Case Sensitivity:

> In order for the b-comm application to work properly, SQL Server Databases should not be case sensitive.

Customer Initials

dormakaba Initials
dormakaba Initials

Architectural Considerations

b-comm servers can exist in a variety of configuration including single server, multi-server and multi-instance configuration.

System Setup Examples

Typical b-comm installation consists of a single instance environment composed of the application server and the database server, see Figure 1.
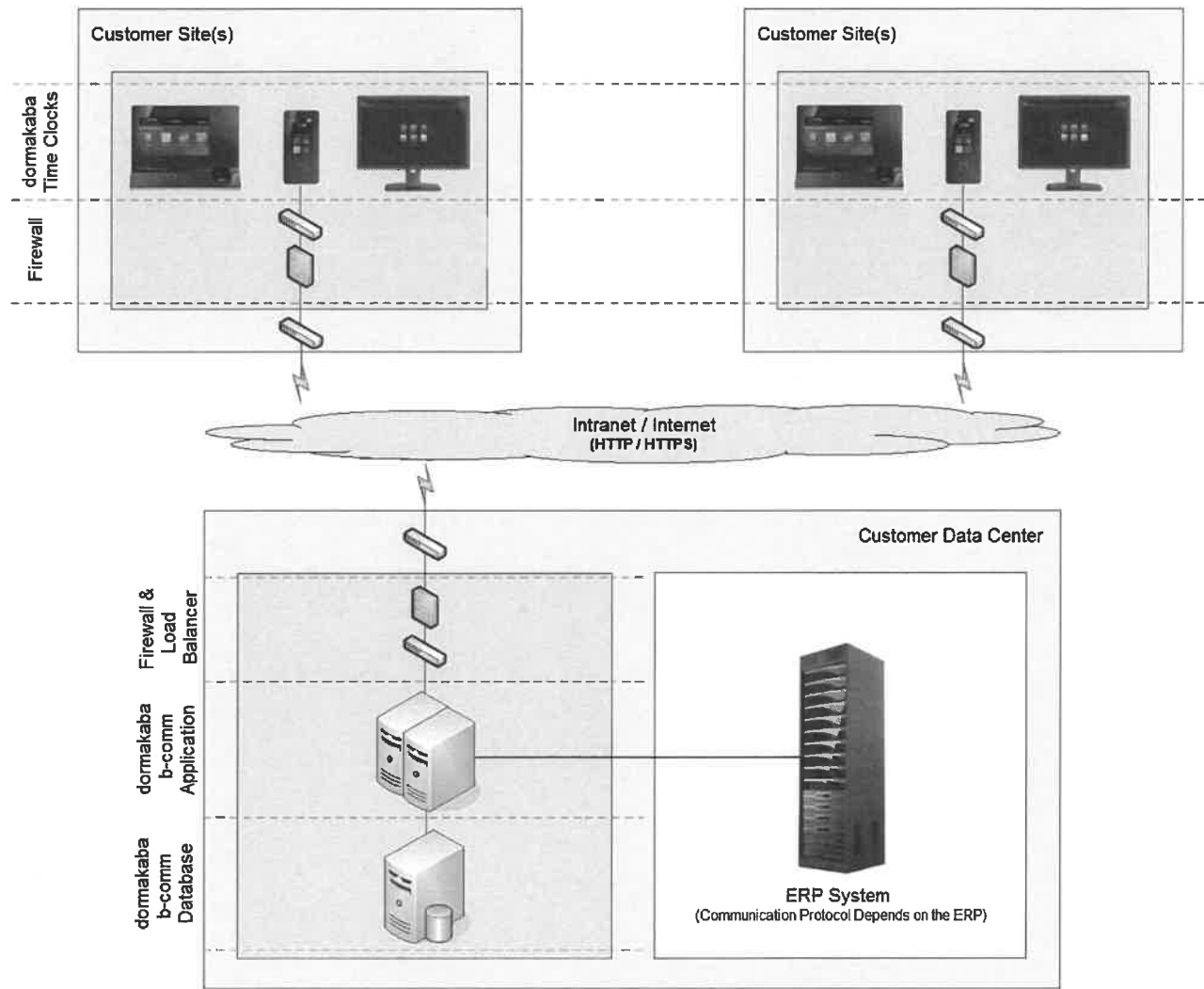

Figure 1: b-comm in a Single Instance Environment

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b-comm can be placed in a multi-instance environment consisting of more than one application and database servers physically and logically separated to form multiple b-comm instances, see Figure 2.
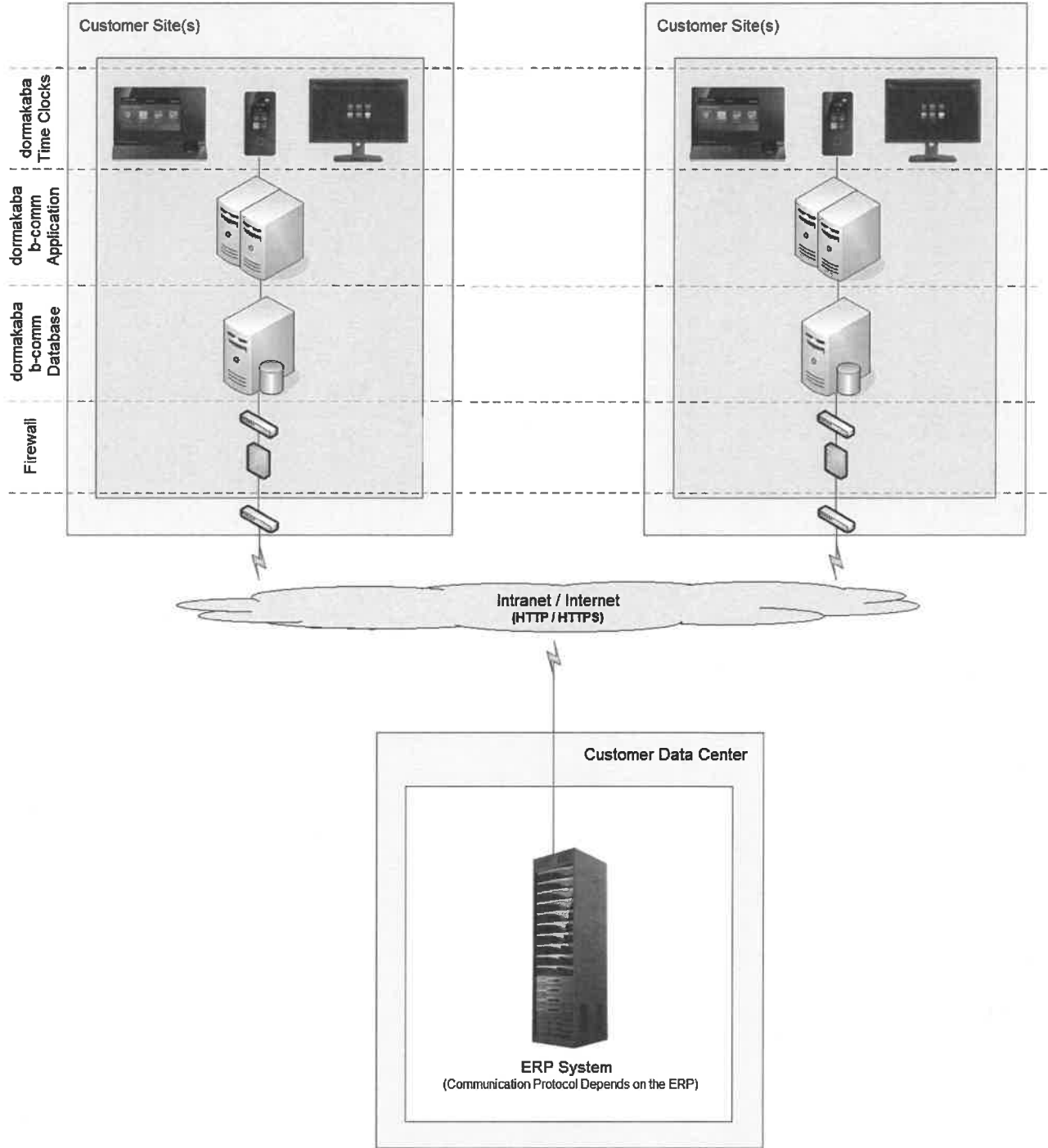

Figure 2: b-comm in a Multi-instance Environment

b-comm can also be placed in a manually separated single instance environment. A manually separated single instance environment allows the customers to use a single database but multiple application servers to separate out physically separate facilities on their own Application servers, see Figure 3.
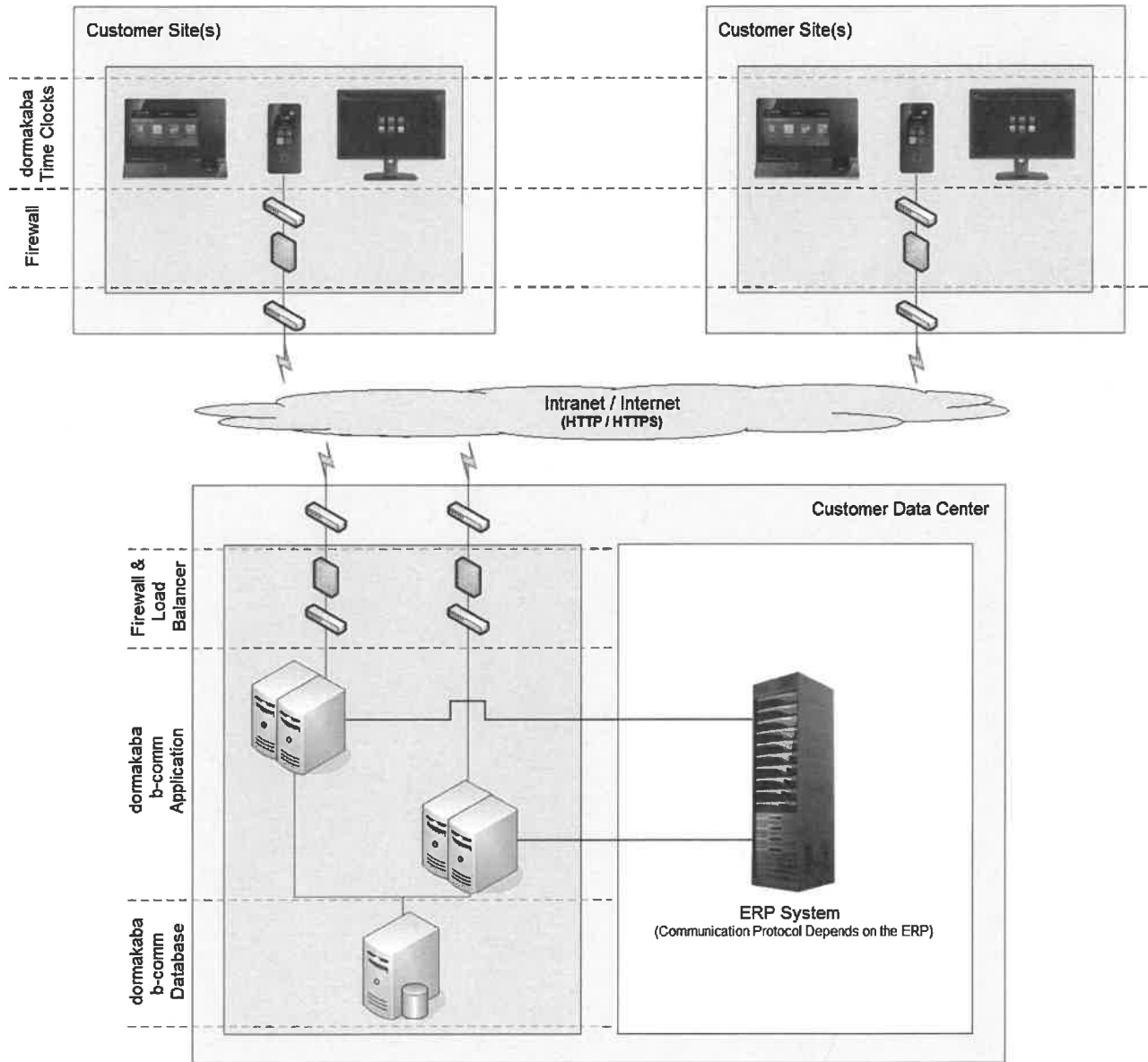

Figure 3: b-comm in a Multi-Server single-instance Environment

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High Availability and Load Balancing

The b-comm application uses the TCP protocol on the transport layer and Http/Https protocol with XML and HTML documents on the application layer. The usage of standard protocols and documents allows customers to use load balancing and high availability hardware in a multi-server environment. b-comm application functions well in Fail-over (Active/Passive) cluster and also in a Load-balanced (Active/Active) cluster. dormakaba does not officially endorse a particular hardware vendor for high availability or load balancing devices, however, any device used must support "sticky sessions". Sticky sessions work with the load balancer to improve efficiency of persistent sessions in a clustered configuration.

In addition to application server high availability, b-comm database can also function in a SQL Server cluster or in an Oracle RAC environment. We do not provide configuration or maintenance support for configuring database clusters.
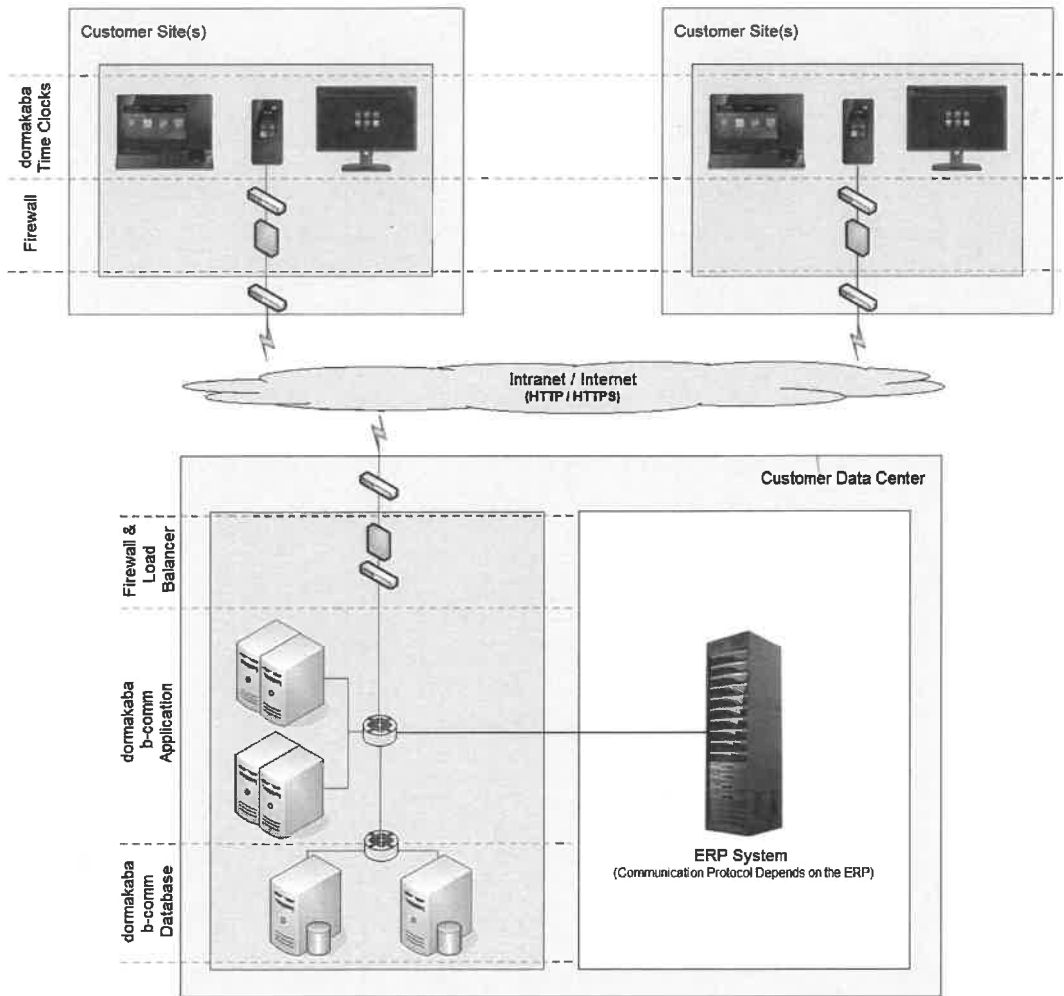

Figure 4: b-comm in a Multiple Server Environment with High Availability and Load Balancing Devices

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HTTPS: Some dormakaba clocks, such as b-net or b-web, may not work in a load balanced configuration when using HTTPS. Those clocks only support 1 server certificate at a time.

Biometric clocks: The biometric template distributions are UDP based. Load balanced configuration may not work with biometric time clocks.

Services: Please note that some application configuration changes, particularly on background services, may be required in order for an application server cluster to work properly.

Virtualization

b-comm is supported in virtual environments provided by VMware and Microsoft. b-comm has been tested with VMWare vSphere 4 and 5. The specifications for virtual environments are similar to the specifications given for physical servers.

Customers may virtualize their database if needed, however, due to performance implications, virtualizing of production databases is not a practice recommended by dormakaba. In certain cases, where problems point towards issues in the virtual environment, dormakaba will ask the customer to introduce physical servers in the environment to eliminate the possibility of problems due to virtualization.

Additionally, the b-comm Application is network intensive and problems may arise where physical network interfaces are shared between several virtual machines. Refer to your virtualization vendor's documentation and recommended best practices for networking critical business applications. Pay particular attention to separating management traffic from virtual machine network traffic, and using multiple NICs for virtual switches to take advantage of NIC teaming capabilities.

Network and Bandwidth Requirements

All b-comm servers must reside in the same data center and if possible on the same IP subnet to reduce network latency between servers. The greatest amount of network traffic in an b-comm system is between the b-comm database server and b-comm application servers, network latency between b-comm servers should not exceed 1 millisecond. In order to have optimal performance on data collection terminals, network latency from data collection terminals to b-comm servers should not exceed 200 milliseconds. Network latency for between client machines and b-comm web should be 100 milliseconds or less. Average transaction size for data collection terminals is 512 bytes.

dormakaba Time Clock Requirements

b-comm supports a full line of dormakaba terminals, please consult with your account manager for the latest supported devices. The terminals require a PoE+ power injecting hub within 100m of the clock or a local PoE+ injector in accordance with IEEE802.3at/type 1 class 0 (0.44-12.95W) or IEEE802.3at /type 2 class 4 (12.95-25.50W) for terminals ordered with WLAN or mobile communication option. Each dormakaba terminal has a default exit password that can be changed via configuration. The terminal IP addresses can be defined as static or assigned automatically via DHCP. The terminal provides a Service Interface website for configuration purposes. The default username and password for this web interface can be changed via configuration. Local terminal access from within a customer network is only allowed through an SFTP server that listens on port 22.

- The SFTP connection is required to place the HTTPS certificate or update the client software on the terminal.
- Access to the terminal via an SFTP client requires a Private Key File and Passphrase.
- The Private Key File will be released to the Customer from dormakaba and should be stored in a secured location, with access limited to authorized b-comm Administration staff only.
- Customers who wish to create their own Private Key File for the terminal must do so on their own.

dormakaba Biometric Solutions

The b-comm solution supports a secure biometric template enrollment and management system. Employee enrollments are performed at the dormakaba clock to create biometric templates. A biometric template is a set of characters that are used to uniquely identify a biometric artifact. It is based on dormakaba proprietary technology that avoids the use of actual biometric images. All current dormakaba clocks support HTTPs biometric template distribution from the b-comm application. Each dormakaba terminal has a default biometric password used for employee enrollment that can be changed via configuration.
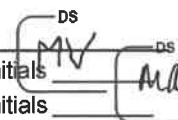
PC Time Clock Requirements

The dormakaba PC Time Clock is often used as a supplement to physical dormakaba terminals. Each dormakaba PC Time Clock must be licensed from dormakaba for customer use. The network communication to the PC Time Clock is the same as a dormakaba terminal. Customers must provide a desktop, laptop, or tablet that meets the following requirements:

- OS: Windows 10
- Processor: 2.0 GHz or higher
- Memory: 2 GB or higher
- Storage: 500 MB

Offline Data Collection

All dormakaba terminals and PC Time Clocks can collect data in an offline manner. These devices will switch to offline mode if they cannot connect to the b-comm application. Devices in offline mode will check the connectivity to b-comm every minute. The devices can collect thousands of transactions in offline mode. All data collected in offline mode is stored on the device's local storage, until the device switches back to online mode. When connectivity is re-established, all data collected in offline mode is automatically transmitted to the b-comm website.

b-comm Web Application

The dormakaba b-comm Web Application is used by Administrators and Managers. The b-comm Web Portal includes two Administrator licenses. Additional Administrators or Managers must be licensed for use from dormakaba. Customers may access the b-comm Web Application using a desktop, laptop, or tablet with the following browsers:

- Internet Explorer
- Google Chrome*
- Microsoft Edge*
- Mozilla Firefox*
  *Some advanced b-comm configuration screens require the use of Internet Explorer.

b-comm Web Time Clock

The dormakaba b-comm Web Time Clock is used by Employees for time, labor, or self-service. Each user of the Web Time Clock must be licensed for use from dormakaba. Customers may access the b-comm Web Time Clock using a desktop, laptop, or tablet with the following browsers:

- Internet Explorer
- Google Chrome*
- Microsoft Edge*
- Mozilla Firefox*
  *Some advanced b-comm configuration screens require the use of Internet Explorer.

b-comm Mobile Time Clock

The b-comm Mobile Time Clock apps are built using HTML 5 technology, therefore, it is a requirement the browser running on the mobile device must support HTML 5. The b-comm Mobile Time Clock is used by Employees to report time or labor. Each user of the Mobile Time Clock must be licensed for use from dormakaba. Optional GPS, or Location tracking, is only supported on iPhone and Android devices. Please check the latest documentation for the supported phones, operating systems, and browsers.

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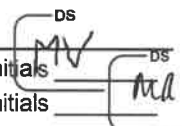# Interface Considerations

b-comm Interfaced with Oracle PeopleSoft

- The standard integration uses the PeopleSoft publish subscribe method to exchanges data between PeopleSoft and b-comm. Customer will be responsible for configuring PeopleSoft to publish the full sync and incremental sync messages to b-comm and subscribe to the punched time and elapsed time messages sent from b-comm to PeopleSoft.
- Some of the integration touch points use database polling of the PeopleSoft tables. Customer will need to create a b-comm interface schema user for the PeopleSoft database. This schema user will need select access for specific PeopleSoft tables used by the integration. A separate data source must be manually created for the PeopleSoft database we connect to.

Customer Initials

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PORTS

Certain ports must be available and open, please see the table below for the list of those ports. The ports listed in the table below are the default ports and some are changeable if so desired.

Purpose	Port	Notes
Application Server, Web Application, dormakaba Clocks	JBOSS: 8080 / 8443 WebLogic: 7001 / 7002	If HTTPS is being used for the Web Application, or SSL being used on TCDs, the Port needs to be a HTTPS Port. These Port Numbers are configurable.
FTP connection to the dormakaba Clocks	21	This Port Number is not configurable
b-comm Application Server to dormakaba Clocks (Is Terminal Reachable - Status)	7	This Port Number is not configurable
b-comm Communication App (Manages fingerprint templates) to b-comm Communication Server (b-comm GUI Service)	30720	UDP Port. Required if using Biometrics.
b-comm Communication App (b-comm GUI) to dormakaba Clocks	1097	Required if using Biometrics.
b-comm Communication App (b-comm GUI) to dormakaba Clocks	1095	Required if using Biometrics.
b-comm Communication App (b-comm GUI) to dormakaba Clocks	1098	Required if using Biometrics.

In addition to the ports listed in the table above, the dormakaba application must be able to reach other applications via ports needed on those applications. Example of such applications are ERP systems, Scheduling Systems, HR Systems, SMTP Server (for sending messages), FTP server (when working with IVR). Besides these examples listed, there may be other systems the dormakaba application connects to.

Customer Initials _____

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It is recommended that this section is reviewed and signed by the customer resource responsible for the customer's Information Technology and Enterprise Architecture.

Collin County

By: *Michelle Charnoski*
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Print Name: Michelle Charnoski

Title: Purchasing Agent

Date: 3/14/2022

Awarded by Court Order 2017-813-10-09
Amendment No. 5 Court Order
2022-191-02-21

dormakaba Workforce Solutions LLC

By: *MVRaman*
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Print Name: Muthuswamy Venkatraman

Title: Director of Software Development

Date: 3/17/2022

By: *Mark Allen*
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Print Name: Mark Allen

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