



## Data Collection Solutions



Kronos Goes Where Your Workforce Goes

## **Building on a track record of success**

We're committed to delivering industry-leading data collection solutions now and into the future. It's a mindset that we developed as both a pioneer and an innovator. Since delivering the industry's first micro-processor-powered time clock three decades ago, we've continued to pursue new technologies to develop powerful, proven data collection solutions that work for you regardless of your organization's size, industry, or environment.

Kronos is a partner you can trust. We have a consistent track record of revenue and profitability growth, so it's safe to say we'll be here for you in the future. We're committed to helping you accomplish your specific objectives. We embrace a product development strategy that is driven by customer feedback; as a result, our solutions are truly designed by users for users. And all of our data collection solutions are fully supported by the industry's most extensive services portfolio, so you can rest assured that we will help you overcome your organization's unique challenges.

**20 million**  
**20 million employees use Kronos every day**

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**Is Your**  
**Data**  
**Helping You**  
**Achieve**  
**Bottom-Line**  
**Results?**

Organizations have always tried to make use of the best available information to drive their businesses — to make decisions, to measure performance, or even to shape their overall strategy. But too often they have been challenged by data that could be days or weeks old, preventing them from making decisions in time to have real impact. Now, these same organizations are discovering that access to the right data — at precisely the right time — is a distinct competitive advantage.

No one understands the inherent value of employee data and the importance of data collection more than Kronos. We have more than 26 years' experience and success delivering a full array of data collection solutions that our 40,000 customers rely on to achieve their mission-critical objectives each and every day.

Kronos solutions are much more than front-end tools for collecting employees' time and attendance data. They automate manual processes, a step that helps ensure data is both timely and accurate while enabling you to put real-time information in the hands of decision makers. Our solutions engage your entire workforce through self-service initiatives. Employee self-service contributes to increased satisfaction and empowers managers and employees to focus on higher value, more strategic tasks. And with technology best suited to your specific work environment, our data collection solutions reach all employees — wherever and however they work. This all becomes possible by achieving the following benefits:



### **Reach all employees**

Whether you have salaried, hourly, full-time, part-time, remote, mobile, permanent, or contingent employees, we can deliver a data collection solution that is best suited for your organization. Badge terminals, Web-based solutions, interactive voice response (IVR), handheld/PDA solutions, and biometrics — we offer a full range of solutions that enable you to engage every employee in your organization.

### **Reduce costs and increase productivity**

Automating manual, error-prone data collection processes eliminates the need for paper-based systems, which results in fewer mistakes, more accurate data, reduced labor costs, and improved overall productivity. Automation accelerates the entire process, enabling you to better manage your employees' needs. And it provides decision makers with real-time access to the data that improves planning, forecasting, and scheduling, all of which help align your workforce strategy with your organization's critical objectives.

That's not all. We can help you reduce labor costs further by eliminating a persistent workplace problem: "buddy punching." Employees inappropriately entering time and labor data for each other has adverse effects on labor costs, payroll accuracy, employee morale, and overall productivity. We offer a powerful biometric solution that gives you a safe, easy-to-use method for accurately verifying employees' identities while ensuring that their privacy is protected.

### **Minimize technology costs**

Our data collection solutions integrate seamlessly with all of our human resources, payroll, scheduling, and time and labor solutions. This means you'll realize the full benefit of your applications while enjoying faster, more efficient implementations, and reduced maintenance costs during the entire product lifecycle.

### **Improve employee satisfaction**

Give employees self-service access to their personal or work-related information — such as leave balances, schedules, hours worked, human resources data, and more — and empower them with a greater sense of control. This allows for the automation of common employee-centric processes that are difficult to administer and leads to improved employee morale, performance, and retention.

Self-service programs help increase overall productivity too. Employees can answer their own questions — quickly and easily — without troubling human resources and payroll. Reducing this administrative burden lets busy managers spend less time pushing paper and more time focusing on higher-value tasks.

### **Make better decisions faster**

Collecting data directly at the source, immediately as a transaction occurs, helps ensure information is timely and accurate, and it puts real-time data in the hands of decision makers. Armed with this data, they can make well-informed decisions — the types of decisions that lead to better bottom-line results.

# A powerful browser-based data collection solution



## Workforce Employee

How does your organization collect and manage information from an increasingly diverse workforce?

**Kronos' Workforce Employee™** solution is the answer. This intuitive, browser-based interface enables employees to enter time and labor data and access personal human resources information. With Web-based access, Workforce Employee is able to meet the diverse needs of your entire workforce — everyone from individuals interacting via Web browsers to groups of employees using self-service kiosks. This allows you to deliver powerful self-service capabilities that actively engage all employees and make them part of a unified solution for improving productivity.

### Engage employees with self-service solutions

Now any employee — on-site professionals, salaried, remote, even telecommuters — can enter, access, approve, and view their job-related information using a Web browser.

Such self-service access pays many dividends for the entire organization. First, by reducing the amount of time human resources, payroll, or managers spend responding to employee questions, you free them to spend more time focusing on higher value, more strategic activities. Giving the workforce greater control over personal data inevitably leads to increases in employee morale, performance, and retention — other key factors that contribute to improving productivity and satisfaction in the workplace.

*Use the power of the Web to automate your critical processes and engage all employees — via employee self-service — for increased employee satisfaction and improved productivity.*



## Instant access to information when you need it

With Workforce Employee, employees gain real-time answers to the questions they ask every day, such as “How many hours have I worked this week?” “How much vacation time do I have?” “What’s my schedule for next week?” They can also view daily and cumulative hours worked, overtime accumulations, and other totals as well as online schedules with up-to-date leave balances.

Workforce Employee automates such employee-centric processes as	
Request for time off	Employee messaging
Vacation bidding	View schedules
Shift bidding	View hours worked
Open shift sign up	Availability
Shift swapping	View pay stub
Training registration	Approve timecard

As employees begin to use these features more frequently, your organization will reap the many benefits of employee self-service, enabling you to realize a faster, more significant return on your Kronos investment.

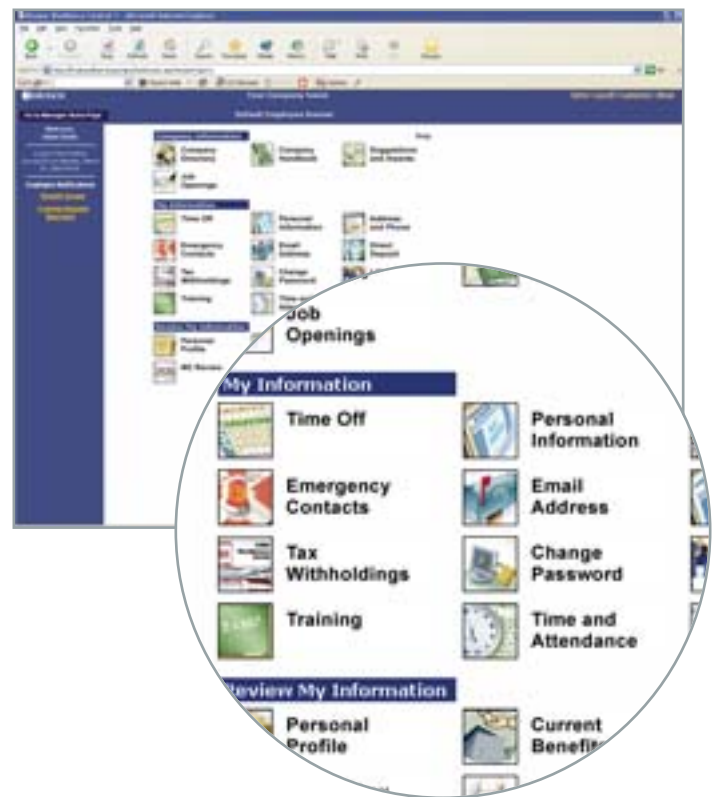
## Empower managers to make better decisions

Communicating critical information and making data accessible in the workplace are two driving forces behind workforce productivity. To help address both of these issues, Workforce Employee streamlines the time-consuming, often complex interactions between managers and employees — while providing fast and convenient access to key functionality in existing human resources, payroll, scheduling, and time and labor systems. As a result, human resources and payroll are better equipped to deliver better service while reducing the associated transaction costs.

Plus, with access to real-time information, managers can optimize the use and development of the workforce. Workforce Employee ensures that all labor data, including hours, jobs, project information, or leave requests, is collected consistently. Managers can view this information and approve it right at the point of entry, and they can use this information to make timely, proactive decisions. And with exception views, managers can see any changes to standard schedules — such as absent or late — in real time, so they can take appropriate action quickly.

## Better information leads to better decisions

Workforce Employee gives your organization the solution it needs to collect and track critical labor information — however or whenever your employees interact with the system. It provides exceptional employee self-service capabilities that help to streamline your organization’s time and labor and leave management procedures, ultimately improving productivity. But most importantly, with Workforce Employee, your managers are better equipped to make real-time business decisions about the workforce — decisions that contribute to improving your bottom line.



## Gain real-time access to your labor data and achieve better results



### The Kronos 4500 Badge Terminal

Maximize the value of your organization's labor data with the **Kronos 4500™ badge terminal**. This Web-based, network-centric terminal gives you real-time access to vital labor data, leading to better workforce planning, forecasting, scheduling, and analysis. As a result, you'll improve your ability to align your overall workforce strategy with your organization's business objectives.

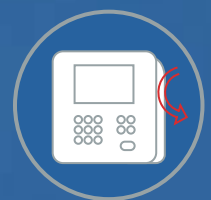
Engineered and manufactured in our Massachusetts plant, the Kronos 4500 terminal offers a secure and "intelligent" interface employees will embrace and the tools and functionality busy managers need to manage their workforce.

#### Fast, accurate data entry

With a highly intuitive, menu-driven, ATM-like interface, this terminal helps employees interact with their own time and labor data much more dynamically. It also offers programmable soft keys and prominent on-screen labels, which eliminate the need to memorize complex function key sequences. This rich, easy-to-use interface enables employees to:

- Take advantage of swipe-and-go interaction — no in or out keypunch required
- Select entries such as labor levels, jobs, and pay codes from a list of valid values to minimize errors
- Receive group or individual messages and check labor information such as hours worked, vacation balances, and schedules
- Confirm correct entries and messages with visual and audio feedback

*Give managers real-time access to valuable labor data for better workforce planning, forecasting, scheduling, and analysis, and improve your ability to align your overall workforce strategy with your organization's objectives.*



## Reduce labor costs with functionality that puts you in control

Now you can enforce your company's policies and control overtime by making sure employees work only the hours they are scheduled to work. Supervisors can restrict employees' start or end times based on work schedules or restriction profiles that you create. And when exceptions do occur, your managers can override these restrictions at the terminal.

- Eliminate unauthorized overtime by scheduling when employees can punch to start and end shifts
- Lock out "early bird" or tardy employees
- Force late arrivals and early departures to notify supervisors before punching

## Improve employee productivity and satisfaction with employee self-service

Now you can take advantage of all employee self-service has to offer. With the Kronos 4500 terminal's ATM-like display and personalized Smart View™ technology, you can automate manual processes and empower employees to access and maintain their own work-related information.

Using the terminal's innovative Web browser functionality, employees have the ability to access and initiate personalized Smart Views. With Smart Views, employees are empowered with real-time access to view work schedules, enter time and labor details, and initiate requests, such as time off requests, directly at the terminal. The secure and restricted browser uses only HTML files, so you don't have to worry about viruses or employees browsing inappropriate websites.

Smart Views can also help you streamline communication between busy managers and employees. Beyond robust messaging capabilities, Smart Views enable employees to instantly view the status of other work-related issues, including shift sign up, shift swapping, training registration, and more.

Empower employees to view and manage their own information, including the following	
Punch status	Hours worked
Accrual balances	View schedules
Labor and job transfers	Cancel meal deductions
Request for time off	Employee messaging

Smart Views help you engage and empower employees to get the information they need — when they need it — without having to disturb busy managers. As a result, you improve information accuracy, reduce call volumes and printing costs, and minimize administrative hassles.

## Designed for ease of ownership

The Kronos 4500 terminal's flexibility allows your organization to continually evolve as your requirements change. For example, it can be remotely configured to fit your payroll and personnel policies. In addition, the Kronos 4500 terminal offers many features that ensure it is the right fit for your organization.

**Easy installation:** The Kronos 4500 terminal's on-screen configuration facilitates simple, efficient setup. Once installed, it adapts itself to your environment by using advanced connectivity options, such as built-in auto-sensing 10/100 Mbit Ethernet, with DHCP or v.90 modem. It can even connect to 802.11 wireless networks.

**Centralized management:** All administrative and management functions are performed by the Data Collection Manager (DCM) software. DCM is a user-friendly application that makes the management of terminals virtually a plug-and-play process. DCM gives you a variety of methods to manage your terminals, such as assigning employees and terminals to organizational groups, managing employee access, collecting employee data, and managing the data between terminals and your Kronos application.

**Modular technology:** The terminal comes with built-in flash memory, so you won't lose data during network or power outages. If power is lost, an optional backup battery provides full employee and supervisor functionality.

The Kronos 4500 terminal also supports a wide range of data input devices to extend the terminal's capabilities as your company grows.

- Finger scan biometrics
- Your choice of badge readers, including barcode, magnetic, and proximity
- Universal relay to control ringing of bells and gate entry
- Alphanumeric keypad
- Handheld readers: wand, linear imagers, and laser scanner

The Kronos 4500 terminal is designed to work with Kronos' entire line of time and labor solutions — giving you a total solution for your organization's data collection objectives.

[For more Kronos 4500 terminal features, go to the next page](#)

# Eliminate buddy punching while alleviating employees' privacy concerns



## The Kronos 4500 Touch ID Terminal

Looking for one solution to eliminate buddy punching and collect time and labor data accurately?

Look no further: the **Kronos 4500 Touch ID™** terminal combines reliable, employee-friendly data collection functionality with sophisticated biometric verification capabilities.

Powerful and proven. The Kronos 4500 Touch ID terminal is built on the industry-leading Kronos 4500 badge terminal, so you can take advantage of all the same features and functions that the Kronos 4500 terminal offers. But the Kronos 4500 Touch ID terminal goes a step beyond by offering reliable finger scan technology for verifying your employees' identities during the data collection process.

### Reduce labor cost and increase productivity

Automated time and attendance solutions are very effective in minimizing data entry errors from manual timekeeping systems. But payroll inaccuracies — and inflated labor costs — persist when employees continue to enter labor data for each other.

Every employee's finger data is unique, so using finger scan biometrics as a way of verifying employee identity is a foolproof method of preventing employees from entering labor data inappropriately. With the Kronos 4500 Touch ID terminal in place, you'll rest assured that the actual employee is present as his/her time and labor data is collected.

*Offering the same features and functionality as the industry-leading Kronos 4500 badge terminal, the Kronos 4500 Touch ID terminal goes a step further by offering proven biometric technology. Now you can eliminate buddy punching — for reduced costs and increased productivity — while alleviating employees' privacy concerns.*



## Getting started

Getting employees on the system is fast, easy, and pain free. Employees enroll one or two fingers from either hand by placing them on the terminal's scanning device. Using two fingers gives you the option of using the secondary finger as backup in case the primary finger is injured.

Then, when the finger is scanned, the Kronos Touch ID software measures finger characteristics and translates them into a binary template using sophisticated algorithms, which can be used for later verification purposes. The terminal even provides you with visual feedback and an ergonomic finger guide to assist with finger positioning for successful enrollment. The entire enrollment process averages just a few seconds per person and can take place at the terminal or from a central location.

## Powerful technology for consistent verification

Once enrolled, employees simply submit their time and labor data by keying a pre-assigned PIN, or by swiping a badge at the terminal and placing one of their enrolled fingers on the sensor. It's that easy.

It's so effective because of the technology. The Kronos 4500 Touch ID terminal uses a silicon-based sensor to image below the surface layer of the skin to the live layers. Unlike other technologies, such as optical or DC capacitive, skin surface conditions do not limit the ability of the sensor to capture biometric data.

For increased security, you can use barcode, magnetic, or proximity readers in conjunction with the Kronos 4500 Touch ID terminal, making it secure and foolproof.

## Protecting employees' privacy

The Kronos 4500 Touch ID terminal also provides safeguards so that your employees' privacy is protected at all times. The terminal does not capture and store actual fingerprints; instead it saves mathematical representations of the employees' finger data using a sophisticated pattern recognition algorithm. Because images of the fingerprint are not saved, the Kronos 4500 Touch ID terminal cannot use any stored information to re-create fingerprints, which goes a long way to reassuring apprehensive employees.

The Kronos 4500 Touch ID terminal gives you the solution you need to accurately and consistently verify your employees' identities, eliminate buddy punching, and reduce labor costs — all while providing safeguards for employees' privacy.

Features for the Kronos 4500 badge terminal and Kronos 4500 Touch ID terminal	
<b>ATM-like display</b>	Help employees work smarter and dynamically interact with labor data
<b>Programmable soft keys</b>	On-screen labels provide easy-to-use, menu-driven functionality
<b>Employee self-service</b>	Engage employees to manage their own labor information
<b>Employee messaging</b>	Streamline the communication between managers and employees
<b>Designed for ease of ownership</b>	Remotely customize the terminals to fit your organization's payroll and personnel policies
<b>Built-in 10/100 Mbit auto-sensing ethernet, modem, and wireless</b>	Offers a variety of industry-standard communication technologies to work in your environment
<b>TCP/IP based protocol, embedded Web browser, and XML data format</b>	Provides reliable communications over WANs and LANs using industry-standard protocols
<b>Modular technology</b>	Supports a wide variety of data input devices to extend the terminal's capabilities as your organization grows

# A proven solution for employees on the move



## Workforce TeleTime

Do you have employees who telecommute, work in multiple facilities, travel frequently, or just don't have access to other data collection solutions or the Web?

If so, **Workforce TeleTime**® — a telephone-based interactive voice response (IVR) application similar to voicemail — gives you a reliable data collection option for nearly every employee and every work environment.

Workforce TeleTime offers the power of a proven data collection solution and the convenience and universal accessibility of the telephone. The result is a tightly integrated data collection and communication solution that is easy to use, reliable, and available to anyone in your workforce. Make data collection and communication fast, convenient, and effective, so you can spend less time tracking labor data — and more time managing your business.

### Employees on the move

Organizations that have employees who work across a large geographical area, such as a university campus or a healthcare complex with remote clinics, will benefit from Workforce TeleTime. It is perfect for sales representatives, consultants, construction workers, security personnel, service technicians, healthcare providers, and other employees who cannot be anchored to one location for collecting labor data.

Workforce TeleTime accommodates the entire workforce by matching user interface to employee work style — anytime and anywhere — while providing 24-hour self-service access to labor information. With a landline or cellular telephone, employees can submit time and labor information, including start and end shifts, enter worked hours, work rule transfers, labor level transfers, and meal deductions. They can even access the inquiry menu for a playback of information entered or accrual balances.

*Discover the benefits of a telephone solution for employees on the move.*

*Workforce TeleTime offers the power of a proven data collection solution and the convenience and universal accessibility of the telephone.*



## Employee transactions

Employees only have to use the telephone touchpad to perform certain time and labor transactions. Once the employee completes a transaction, it is recorded and written to the Workforce Central® database in real time for supervisors to access, review, or edit.

Employee transactions include	
Punch status	Labor transfers
Hours worked	Accrual balances
Current & future schedules	Cancel meal deductions
Employee messaging	Enter schedule availability

## Supervisor functions

In addition to these employee transactions, supervisors can perform numerous functions, such as sending individual or broadcast messages or editing employee timecard information. They can also notify employees about situations that may need immediate attention; for example, to handle last-minute staffing changes and floats. You can even give supervisors editing capabilities, including timestamp additions, scheduling changes, labor allocation changes, and more.

## Administrative functions

System administrators can easily configure Workforce TeleTime to accommodate specific requirements, user profiles, connect times, access privileges, etc. These functions provide your administrators with many different options for maximum flexibility:

- Peak-period function blocking: Restricts inquiry-only functions during periods of heavy traffic.
- Call statistics reporting: Allows administrators to measure efficiency and prevent busy signals.
- Employee information reporting: Provides on-demand reports concerning employees' profiles, access privileges, line usage, sessions, and transactions.

## Where are your employees calling from?

With Workforce TeleTime, you can restrict employees from using unauthorized telephone numbers — from non-work locations, for example — to submit their time and labor data. It uses network-provided automatic number identification (ANI) to verify that your employees are calling from an authorized number before gaining further access to the system.

These specially designed security features help reduce fraud and abuse of the automated time collection system. If ANI security is used to identify and restrict the numbers where calls can be made from, the information is recorded in several reports available in the Workforce TeleTime system.

Key capabilities of Workforce TeleTime with ANI security include:

- Tracking incoming telephone numbers
- Restricting callers to a designated number or area code before allowing further access to the system
- Linking of time zones to originating call's time zone assigns the correct time zone to a time stamp

## Workforce TeleTime features

Workforce TeleTime is designed for quick and efficient phone calls to reduce connect time per transaction, limit excessive line usage, and ensure high performance during peak usage times. The following features provide optimum system utilization and maximum availability:

- Interruptible prompts: Allows users to type ahead and enter their transactions without having to wait for the prompting script to complete.
- Alias prompts: Permits assignment of descriptive names instead of numerical values.
- Abbreviated voice prompting: Configurable prompting levels let employees perform their transactions via abbreviated prompts and responses.
- Telephone pass-back: Provides for efficient line usage when multiple employees need to call the system from the same location.
- Multiple-function operation: Allows users to perform several tasks during the same session.
- Session time-out: Terminates calls when users wait too long to respond to a prompt.

## Configuration flexibility

Finally, Workforce TeleTime is a single-system solution that addresses the needs of diverse workforce situations and infrastructure environments.

The system's flexible configuration architecture can be readily tailored to your particular telephony environment. It works with a wide variety of PBX and Centrex phone systems and supports analog, digital T1, and ISDN/PRI lines. Customer-specific configuration options provide an extensive selection of line set-up, call restrictions, and user profiles.

## Engage your mobile workforce



## Do you know where your mobile workers are?

Using Kronos' time and labor applications with handheld devices is helping many organizations — including transportation, healthcare, public safety, and manufacturing — engage a once "out of sight" mobile workforce.

Now it doesn't matter if you have employees who work alone, such as service technicians or truck drivers, or groups of employees, like construction or catering crews. Kronos can support an increasingly mobile workforce with "anytime, anywhere" information access using mobile handheld devices.

We can help you engage mobile employees and apply your specific pay rules accurately and consistently. Extending Kronos' time and labor solutions to your mobile workforce enables them to enter and track their time, labor, and other work-related information whenever and however it's convenient for them. It also empowers them to perform transactions, such as labor transfers, as they move between jobs during the day without leaving their workstation.

You can increase productivity in the field by moving critical business information to mobile employees, all as a result of making your time and labor solutions available on a variety of Microsoft-based mobile devices and networks. You can even collect real-time data using wireless technology and allow employees to work offline to exchange data when wired or wireless communications are available.

***Now you can automate the data collection process for remote or mobile employees.***

***When you do, you will improve the process for receiving and using their time and labor data and gain increased insight into this once "out of sight" workforce.***



## Mobile Solutions in Action

### Kronos goes where your workforce goes

When you extend your Kronos time and labor applications to the mobile workforce, you'll be able to:

- Improve the accuracy of your payroll data by automating time and labor collection processes for all your employees.
- Increase worker productivity, and reduce the time employees spend filling out paper timesheets.
- Provide management with real-time job-costing information critical to making informed business decisions.

So no matter what industry you work in, providing your field and mobile employees with the information they need — exactly when they need it — can give your organization a significant competitive advantage.

### Fast, accurate data collection with a handheld solution

Each morning, a parking supervisor is assigned to a particular event and is given a list of employees who will be working that day. In the case of a big event, like a football game, he can have as many as 50 employees working for him.

His biggest challenge: accurately collecting and tracking each employee's time and labor information to help his company comply with union regulations, analyze job costs, forecast future labor requirements, and more.

By using Kronos' time and labor application on handheld devices, the supervisor is now able to scan each employee's bar-coded ID badge with a handheld device to collect their time and attendance information. Because this data is collected right at the source, he doesn't have to rely on error-prone timesheets or other paper forms.

As a result, labor data is uploaded directly to the Kronos database in real time, eliminating redundant data entry efforts. The company's specific pay rules are applied, and employees' time and labor data is stored for future reporting and decision-making purposes.

### A telephony solution for employees on the go

In a busy healthcare organization, mobile employees just don't have access to traditional data collection terminals — or even the Web. Instead, they are able to use a simple telephone to quickly and easily submit their time and attendance information.

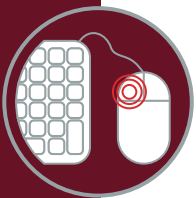
A traveling home nurse starts her day by visiting a patient at his residence. To indicate that her shift has started, she uses her cell phone to dial into her company's interactive voice response data collection solution and enters a simple code using her phone's touchpad.

When she finishes with this patient two hours later, she duplicates this step — on the drive to her next appointment — to show that she has completed this activity. She repeats this process during the day to submit all of her time and labor information. Later that night, she calls in to check her accrual balances and her schedule for the next day.

# Workforce Employee

Workforce Employee Specifications	
<b>Processor: Intel Pentium</b>	Recommended: 200 MHz or higher Minimum: 133 MHz
<b>Memory</b>	Minimum recommended: 32MB
<b>Hard drive</b>	N/A
<b>Operating system</b>	Microsoft Windows 98 Microsoft Windows 2000 Professional SP1* Microsoft Windows 2000 Server SP1* Microsoft Windows NT Workstation 4.0 SP6a* Microsoft Windows NT Server 4.0 SP6a* Microsoft Windows XP Microsoft Windows 2003 Mac O/S v8, v9, OSX
<b>Browser support</b>	Microsoft Internet Explorer 4.0 and above (up to the version supported by Java clients) Netscape 4.0 and above (up to the version supported by Java clients) Internet Explorer for Mac 5.1.5, 5.2 Netscape for Mac 4.5, 4.7, 6.1, 6.2
<b>Other requirements</b>	Display resolution: optimal for 800x600, 640x480 with scroll bars Color: optimized for 256; 16 colors supported but may not be ideal

\* Kronos only supports service packs to the specific release. It does not imply support of subsequent point release or subsequent full releases by the vendor. For example, Windows NT 4.0 SP6a means that Kronos will support NT 4.0, and all service packs made to NT 4.0 service packs 6a or higher (e.g., NT 4.0.6; NT 4.0.7. etc.). It does not imply that NT 4.1, or any other version of NT is supported.



# Kronos 4500 Terminals

## Kronos 4500 Badge Terminal and Kronos 4500 Touch ID Terminal Specifications

<b>Host communications</b>	Ethernet (10/100Mbps Autosensing), v.90 modem, and wireless
<b>Memory size</b>	16MB RAM, 8MB Flash
<b>Keypad</b>	Silicon elastomer numeric and alphanumeric keypad plus 8 programmable soft keys
<b>Screen display</b>	3" x 4" backlit, 3/4 VGA FSTN LCD display
<b>CPU type</b>	Motorola MPC 860DT
<b>Power requirements</b>	100-240V, 1.5A max
<b>Environment</b>	Operating temperature: 0-40 Celsius Humidity:10-95% non-condensing
<b>Enclosure</b>	Black, rugged Polycarbonated/ABS resin
<b>Dimensions</b>	10.75" wide x 11.75" high x 4" deep (terminal dimension do not include biometric device)
<b>Ship weight</b>	5 lbs.
<b>Options</b>	Integrated barcode reader Integrated magnetic reader Integrated proximity reader External barcode reader Linear imager Laser scanner Wand readers Internal AC outlet Backup battery Universal relay 8MB Flash Memory Upgrade Kit

## Kronos 4500 Touch ID Terminal Specifications SPECIFICATIONS — TOUCH ID ONLY

<b>DSP board</b>	Bioscrypt MV1200
<b>Resolution</b>	250 dpi
<b>Active pixels</b>	128 x 128
<b>Image capture area</b>	13 mm x 13 mm
<b>Image sensor</b>	AuthenTec AF-S2
<b>Environment</b>	Operating temperature: 0-40 Celsius Humidity:10-95% non-condensing
<b>Static discharge</b>	Protected up to 15 kV (IEC 61000-4-2 Lvl 4)
<b>Dimensions (H x L x W)</b>	10.75" wide x 15" high x 4" deep (terminal dimensions with biometric device installed)
<b>Storage capacity</b>	4000 finger scan templates (non-volatile flash memory)
<b>Security levels</b>	Variable from none to normal
<b>Finger rotation</b>	+/- 18 degrees maximum
<b>Finger displacement</b>	+/- 7 mm maximum
<b>False acceptance rate</b>	1:1,000, based on normal security
<b>False rejection rate</b>	1:1,000, based on normal security
<b>Equal error rate</b>	0.1% at medium security
<b>Enrollment time</b>	Approximately one minute
<b>Verification time</b>	Less than three seconds



# Workforce TeleTime

Administrator Client	
<b>Operating system</b>	Microsoft Windows NT Workstation 4.0 SP6a* Windows 2000 Professional SP1*

## Database Support

Oracle		
Oracle Server	Supported Oracle/SQL*Net Versions	Platform Operating System
8.1.7 (8i) 9i	8.1.7 Net9 9.0.2.1.0	All operating systems that support versions of the Oracle database

Microsoft SQL Server		
Microsoft SQL Server	Supported Middleware Versions	Platform Operating System
2000	NetLib 8.0* (DBLib 8.00*)	Intel/NT Server 4.0, SP6a* Windows 2000

Workforce TeleTime Server	
The Workforce TeleTime server is the component used to run and monitor the voice program.	
<b>Processor: Intel Pentium</b>	Recommended: 800MHz or higher
<b>Memory</b>	Minimum recommended: 1GB of memory
<b>Hard disk</b>	SCSI hard disk, 18GB, fast (7,200 RPM)
<b>Operating system</b>	Microsoft Windows NT Server v4.0 SP6a Windows 2000 Server SP1 and 2
<b>Communications</b>	10BaseT/100BaseTX LAN, and 56k modem
<b>Power supply</b>	Recommended: 350 watt DC power supply
<b>Other requirements</b>	Minimum of two fans: one on power supply, one exhausting chassis plenum



## Telephony Support

**Workforce TeleTime customers provide cabling for all line types.  
The customer is responsible for having the line configured correctly prior to Kronos' arrival on site.**

Analog	T1	ISDN
Analog Loop Start POTS lines	CSU is required on Telco-provided lines	CSU is required on Telco-provided lines
Requires RJ-11 (single line) cable termination	Requires RJ48 – C cable termination	Requires RJ48 – C cable termination
Disconnect supervision is required	Frame Type D4 or ESF Line Code AMI or B8ZS Protocol E&M Wink (this must be on the TRUNK – side T1, not station-side)	Frame Type ESF Line Code B8ZS Protocol NI2 and AT&T 5ESS Custom

Kronos recommends that you speak with your vendor or system integrator prior to purchasing your hardware.

\* Kronos only supports service packs to the specific release. It does not imply support of subsequent point releases or subsequent full releases by the vendor. For example, Windows NT 4.0 SP6a\* means that Kronos will support NT 4.0, and all service packs made to NT 4.0 service pack 6a or higher (e.g., NT 4.1.6; NT 4.1.7, etc.). It does not imply that NT 4.0, or any other version of NT is supported. SP indicates service pack or patch.

## Handheld/PDA

### Handheld/PDA Requirements

<b>Operating system</b>	Microsoft Windows Mobile 2003 Professional for Pocket PC and/or Microsoft Windows Mobile 2003 for Pocket PC Phone Edition (both Version 4.2 or Second Edition 4.21)
<b>Memory</b>	Minimum recommended: 300k



# Kronos 4500 Terminal and Kronos 4500 Touch ID Terminal options

## Communication Options

The Kronos 4500 badge terminal and Kronos 4500 Touch ID terminal offer a variety of industry-standard communication technologies to work in your environment. Our terminals can be configured to communicate via the following topologies: Ethernet, modem, and wireless. This flexibility allows you to take advantage of your existing network infrastructure, ensuring fast, reliable data communications.

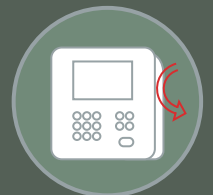
**Ethernet:** The terminal ensures fast, reliable communications over wide area and local area networks. Kronos terminals meet the performance demands of today's networks with built-in auto-sensing 10/100 Mbit Ethernet and TCP/IP protocol support, allowing you to leverage your existing infrastructure.

**Modem:** A simple way of remotely gathering labor data is to use an optional installed modem in the terminal. Modem terminals are well suited for organizations where groups of workstations and terminals are set up in distant locations.

The modem card allows you to communicate with the terminal in a remote location. The modem card is a 56K, PCMCIA, type II card and features the following:

- V.92 standard for dial-up communications
- V.44 compression standard for higher performance over the Internet

**Wireless:** Engineered using industry-standard technology, the Kronos 4500 terminal complies with all Ethernet standards and the IEEE 802.3 Ethernet specification. This allows our terminals to support any 802.11 (802.11a, 802.11b, 802.11g) compliant wireless-to-Ethernet bridges or client bridges from your technology vendor of choice.



## Integrated Badge Readers

Every Kronos 4500 badge terminal or Kronos 4500 Touch ID terminal ships with an integrated badge reader. These readers identify the user in a consistent and reliable manner, and they facilitate faster time and labor transactions by smoothly guiding employees' identification cards through the reader slot.

We offer a choice of integrated badge reader technologies capable of decoding a wide variety of badges. For example, you can choose from a barcode, magnetic, or proximity reader. This means you can use one badge for all existing applications — helping you reduce costs while providing a single badge solution for all your access identification and time and labor needs.

Integrated Barcode Reader	
<b>Symbologies</b>	Code39 Interleaved 2-of-5 UPC-A UPC-E Code 128 EAN-8 EAN-13 Codabar
<b>Light source</b>	Infrared LED
<b>Scan speed</b>	3-90 inches/second
<b>Card thickness</b>	Up to 0.135"
<b>Optical center line</b>	0.450"
<b>Read direction</b>	Bi-directional (top-to-bottom or bottom-to-top swipe)

Integrated Proximity Reader	
<b>Reader type</b>	HID MiniProx reader
<b>Supported cards</b>	Card Read Range
<b>HID ProxCARD II</b>	Up to 5.5" (14 cm)
<b>HID ISOProx II card</b>	Up to 5" (12.5 cm)
<b>HID DuoProx II card</b>	Up to 5" (12.5 cm)
<b>HID ProxCARD Plus card</b>	Up to 2" (5 cm)
<b>HID Smart ISO/DuoProx card</b>	Up to 2" (5 cm)
<b>HID Proximity and MIFARE card</b>	Up to 5" (12.5 cm)

Integrated Magnetic Reader	
<b>Data track</b>	Track 1, Track 2
<b>Magnetic card format</b>	IATA and ABA
<b>Standards</b>	ISO 7810, 7811 1/5, 7812, and 7813
<b>Card thickness</b>	Up to 0.135"
<b>Encoding</b>	75 bpi per ANSI X4.16-1983
<b>Read direction</b>	Bi-directional (top-to-bottom or bottom-to-top swipe)



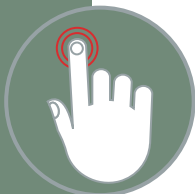
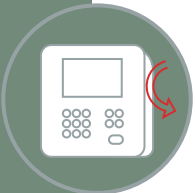
## External Badge Reader

### External Barcode Reader

Kronos offers an external badge reader to extend the terminal's functionality beyond its current location if necessary. For example, customers often purchase the external reader to place in strategic areas to minimize walk time for employees.

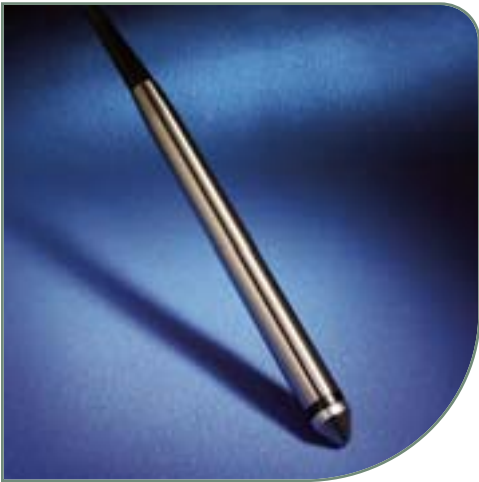
#### External Barcode Reader

<b>Symbologies</b>	Code 39 Interleaved 2-of-5 UPC-A UPC-E Code 128 EAN-8 EAN-13 Codabar
<b>Light source</b>	Infrared LED
<b>Scan speed</b>	3-90 inches/second
<b>Card thickness</b>	Up to 0.135"
<b>Optical center line</b>	0.450"
<b>Read direction</b>	Bi-directional (top-to-bottom or bottom-to-top swipe)
<b>Interface</b>	RS-485
<b>Maximum distance from terminal</b>	4,000 feet
<b>Operating temperature</b>	-40C-50C
<b>Operating humidity</b>	95% maximum non-condensing
<b>Enclosure material</b>	Rugged waterproof plastic enclosure
<b>Dimensions</b>	5.85 x 2.55 x 1.74"
<b>Certifications</b>	FCC Class A, CE, cUL, EN 55022 (CISPR 22)



## Handheld Readers

For quick scanning of barcodes, Kronos offers a variety of handheld readers that connect directly to the terminals. The handheld readers can be mounted near the terminal, making it easier to scan job codes or department transfers. The readers allow users to scan labor entries from barcodes into the terminal, instead of having to manually enter the code, thereby eliminating data entry errors. Kronos supports the following handheld readers:



### Contact Wands

Contact wands are the simplest and least expensive of barcode readers. The operator moves the wand across the barcode label producing an image, which is decoded. Wands require direct contact with the label, and are most effective when reading labels on flat, clean surfaces.

- High resolution allows reading a wide range of barcode labels
- Resistant to dirt and moisture for industrial environments

Contact Wands	
<b>Symbologies</b>	Code 39 Interleaved 2-of-5 UPC-A UPC-E Code 128 EAN-8 EAN-13 Codabar
<b>Light source</b>	660 NM visible red LED
<b>Scan speed</b>	2-50 inches/second
<b>Interface</b>	RS-41
<b>Dimension</b>	7.5" includes stain relief, 0.50" diameter
<b>Weight</b>	3.6 oz with 6 foot coiled cord
<b>Temperature</b>	-20-50 Celsius
<b>Humidity</b>	95% maximum non-condensing



### Handheld Linear Imager

Linear imager scanners are designed to match the reading distance of standard range lasers. They offer a bright, sharp aiming line and high-resolution imaging to deliver exceptional reading performance. Linear imagers are excellent in handheld scanning applications where hand scanning is required for large bulky items, shipping, and warehousing.

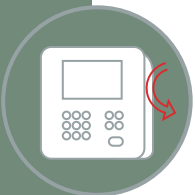
- Consistent light source allows reading in varying ambient light from sunlight to florescent light
- Read windows eliminate read problems with closely spaced barcode labels
- No moving parts and a solid construction, deliver years of reliable service in demanding work environments



### Handheld Laser Scanner

Laser scanners are handheld readers that use a visible light to read barcodes. If you are reading barcodes on an irregular, non-flat surfaces such as shipping cartons. They are ideally suited for non-contact reading applications.

- Lightweight, ergonomic design reduces fatigue
- Tactical trigger provides feedback to user
- Good read indicator allows line-of-site feedback
- Sealed enclosure gives long life in dusty environments



## Handheld Readers

Handheld Reader Specifications		
	Handheld Linear Imager	Handheld Laser Scanner
<b>Symbologies</b>	Code 39 Interleaved 2-of-5 UPC-A UPC-E Code 128 EAN-8 EAN-13 Codabar	Code 39 Interleaved 2-of-5 UPC-A UPC-E Code 128 EAN-8 EAN-13 Codabar
<b>Light source</b>	630 NM visible red LED	650 NM visible red LED
<b>Scan speed</b>	Programmable to 270 scans per second	42 scans per second (nominal)
<b>Interface</b>	RJ-41	RJ-41
<b>Reading distance</b>	From 1" to 8" on medium-density codes	From 1" to 8" on medium-density codes
<b>Reading width</b>	5" code width at 7"	5" code width at 7"
<b>Resolution</b>	5 mil. at 3.5 in. (8.8 cm) distance	5 mil./0.13 mm
<b>Dimension</b>	5.3" x 6" x 3.1"	6.50" x 2.76" x 4.23"
<b>Weight</b>	6.3 oz	6.2 oz
<b>Temperature</b>	0-50 Celsius	0-50 Celsius
<b>Humidity</b>	95% maximum non-condensing	95% maximum non-condensing
<b>Certifications</b>	FCC class B, CD, EMC Class B, CE Low Voltage Directive, IEC 60825-1, LED Safety, Class1, UL, cUL	Gost R, TUV, UL, cUL, FCC Part A EN 55022-B, BCIQ, CNS 13438: AS/NZS 3548; VCCI-B
<b>Laser certifications</b>		DDRH Class IIa; IEC 60825 Class 1 & 2

# Universal Relay

With a universal relay kit, you can use the Kronos 4500 terminal to control gate entry and the ringing of bells. (The user must supply the external bells and gate locks.)

## Bell Schedules

The Kronos 4500 terminal will allow you to ring an external bell or buzzer at specific times to signal the start or end of a shift. Each bell schedule gives you the flexibility you need. This function enables you to define bell-ringing schedules and program the terminal to activate a user-supplied bell, alarm, or other audible signaling device.

With this functionality, you determine:

- The day and time the primary bell should ring
- How long the primary bell should ring
- Whether or not a warning bell should ring.

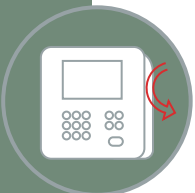
## Gate Entry

You can also control employees' entry into your facility. When an employee swipes a badge at the terminal or uses a remote reader, the terminal triggers a door latch and unlocks the door. The terminal can also be configured to control when the door is locked/unlocked, or to unlock the door for a specified length of time.

This helps enforce security by opening doors for authorized personnel only and lets you enforce employee schedules. For example, if an unscheduled employee tries to punch in, the gate lock restricts access unless a supervisor overrides the terminal.

And for further time savings, this function can even be configured to allow an employee to gain access and punch in/out with just one swipe.

Universal Relay	
Power output	120 volts AC
Output contact ratings	10 Amps at 30 VDC or 250 VAC general purpose 150 VDC or 380 VAC maximum switching voltage
Contact resistance	30 milliohms initially (at rated current, voltage drop method)
Relay	Single Pole Double Throw (SPDT)
Operating environment	0 to 50 Celsius 10% to 95% non-condensing humidity
Safety approvals	Underwriter's Laboratories (UL) 1950 Canadian Standards Association (CSA) 22.2 International Electrical Commission (IEC) 950



## Keypad and Power Options



### Alphanumeric Keypad

When your organization demands employees to enter alpha characters, we provide a large, rugged membrane keyboard suited for gloved operators. A full alphanumeric keypad enables advanced labor transactions.



### Battery Backup Kit

For environments where the ability to collect data during a power failure is mandatory, Kronos terminals can be equipped with an internal 12 VDC lead-acid battery backup for interruption-free operation of the terminal. The backup battery provides enough power to keep the terminal functioning at full capacity for up to two hours. Kronos terminals will also recharge the battery if it ever becomes depleted from use. In the event of a power failure, this option allows employees to finish up jobs and punch out.

If network communications to the Kronos terminal are interrupted, the terminals will store all employee activities until network communications are restored. The employees can continue to conduct their activities at the terminals during the communication interruption. Data will be quickly and securely collected when communications are restored.



### Internal AC Outlet

When your facility doesn't permit you to install the terminal over an existing AC outlet, or you simply are unable to because of a concrete or brick wall, the internal AC outlet allows you to run a conduit and secure the power connection inside the terminal. This reduces the likelihood of tampering and disabling the unit.

Internal AC Outlet	
Voltage	120V AC current
Current	ISA
Certification	UL listed

Kronos Incorporated is the most trusted name in workforce management. Kronos helps organizations staff, develop, deploy, track, and reward their workforce, resulting in reduced costs, increased productivity, better decision-making, improved employee satisfaction, and alignment with organizational objectives. More than 20 million people use a Kronos solution every day. Learn more about Kronos' high-impact enterprise solutions at [www.kronos.com](http://www.kronos.com).



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