

Workforce Central 7 Server Requirement Guidelines for Budget Planning

The Kronos® Workforce Central® suite is the most comprehensive workforce management solution available from a single source. It includes a core of best-in-class web-based applications that help organizations hire the best people and manage them most effectively. When combined with our intuitive self-service applications, the Workforce Central suite delivers value to the entire workforce — at all levels of the organization.

Kronos recognizes some of its customers need to estimate hardware and software to host and run Workforce Central 7. This document provides guidelines to help them with their budgetary process. These estimates cover company sizes ranging from 1 employee to 12,000 employees. Higher employee count companies require a custom sizing exercise. Please contact Kronos if your company size is larger than 12,000 employees.

Note: This is not applicable for customers wishing to implement: Workforce Activities™ , Workforce Forecast Manager™, Workforce Operations Planner™, and Workforce Record Manager™. Clients that have these exceptions should contact their Kronos representative for a more detailed hardware recommendation.

Three-tier architecture

From an IT perspective, Kronos' labor management solutions are structured in three-tier application architecture. This architecture unlocks the real power of the Kronos solution, to be deployed quickly and integrated cost-effectively within an existing IT infrastructure.

Client tier: In the client tier, customers have access to multiple types of interfaces to interact with Kronos applications. Based on the role of the users, Kronos provides access via telephony, PDAs, data terminals (including SmartViews), dynamic html, rich web interfaces (Ajax, Flash, java applets), and portals that leverage the most suitable technology to meet users' specific needs. Web pages and applets connect to the Web-based Workforce Central Application Server.

Application tier: The J2EE application server implements the major parts of the application, including the application logic, performing the real work of the application. The Web server resides on this tier, awaiting browser requests that are passed to Workforce Central. The application tier also includes a business rules engine Web service that optimizes the application server by offloading computationally intensive work for faster response. At the heart of this Web service is the Workforce Totalizer, a robust rules engine designed around an object-oriented model. The Workforce Totalizer executes the Workforce Central business rules in real time. The advantage to this approach is its ability to provide payroll managers and supervisors with real-time calculated data to support decision making and data modeling.

Database tier: The database server efficiently stores and retrieves all application data. The database configuration has many dependencies, including the number of employee records in the database, the number of clients, the number of pay periods to be stored, and configuration of the storage subsystem.

Server recommendations for customer size up to 5,000 employees

Following table lists server recommendations for Workforce Central. Customers with up to 5,000 employees can use the following hardware estimates to purchase the hardware for implementation.

Workforce Central	Up to 750 employees	Up to 2500 employees	Up to 5000 employees
DATABASE SERVER	2 Cores with 12GB RAM	4 Cores with 16GB RAM	DB - 4 Cores with 16GB RAM
APPLICATION SERVER	Single Server Configuration	Single Server Configuration	App - 4 Cores with 16GB RAM
DISK SPACE (GB)	160	270	400
DATABASE BACKUPS (GB)	100	140	180

Server recommendations for customer size 5,000 employees to 12,000 employees

Following table lists server recommendations for Workforce Central. Customers with 5,000 employees to 12,000 employees can use the following hardware estimates as budgeting purposes. Please consult a Kronos service consultant to analyze your specific requirements and make server recommendations for purchasing hardware based on the pre-implementation workshop.

Workforce Central	Up to 7500 employees	Up to 12,000 employees *
DATABASE SERVER	DB - 6 cores with 16GB RAM	DB - 8 cores with 32GB RAM
APPLICATION SERVER	2 x App - 4 Cores with 16GB RAM	3 x App - 4 Cores with 16GB RAM
DISK SPACE (GB)	500	550
DATABASE BACKUPS (GB)	200	220

* If any of the following use cases are met, a detailed sizing survey must be conducted to create a client specific sizing specification document.

- Number of clocks is > 200
- Large imports will be needed during peak hours
- Custom applications are used

Server recommendations for customer size larger than 12,000 employees

Please contact your Kronos representative for a detailed hardware recommendation.

Hardware server specifications and Use case assumptions

Hardware Server Specifications
Intel system with Xeon processor(s)
2.4 GHz E5620 XEON processors

Use Case Assumptions:	
• Employee-to-manager ratio = 10:1	• Less than 1/3 using staffing widget
• Badge terminal-to-employee ratio = 1:100	• Less than 1/3 using Navigator Employee Self Service
• 5 reports per manager average	• Process Manager: up to five standard templates
• 3 hour pay period close window/ Navigator peak window	• The Application Server is being used as a report server

Note: Model 4500 terminals require a minimum firmware version of 2.1 (02.01.xx)

For recommendations that you can use to configure, tune, and enhance the behavior of Workforce Central applications from a performance perspective, refer to the Best Practices – Hints and Tips manual.

Workforce Analytics Product Suite

Workforce Analytics provides four separate products that may be purchased by clients. All clients must purchase the Core Workforce Analytics product that provides data from Workforce Timekeeper. Clients may then add on the industry-specific products, Workforce Analytics for Healthcare, Workforce Analytics for Retail and Workforce Analytics for Manufacturing. These products provide additional Workforce Central data and metadata relevant to each industry. The features identified below are applicable to all Workforce Analytics products, because they are delivered as part of the Core application.

Kronos recognizes the need for planning and through this document we provide hardware guidelines for budgetary purpose. These guidelines are for new or existing customers looking to implement Workforce Analytics 6.3.

These budgetary estimates are based on no more than 20% of the users (managers) concurrently using Workforce Analytics at any time. We recommend that you only use this for server estimates and a Kronos service consultant will work with you to analyze your specific use case and make recommendation for purchasing hardware based on the pre-implementation workshop.

Server recommendations for customer size up to 5,000 employees

Following table lists server recommendations for Workforce Analytics. Customers with up to 5,000 employees can use the following hardware estimates to purchase the hardware for implementation.

Workforce Analytics	Up to 750 employees	Up to 2500 employees	Up to 5000 employees
DATABASE SERVER	4 Cores with 16GB RAM	8 Cores with 24GB RAM	3 Cores with 12GB RAM
APPLICATION SERVER	<i>Single Server Configuration</i>	<i>Single Server Configuration</i>	3 Cores with 12GB RAM
ETL SERVER	Not required	Not required	2 Cores with 8GB RAM
DISK SPACE (GB)	200	350	400
DATABASE BACKUPS (GB)	200	200	200

Server recommendations for customer size 5,000 employees to 12,000 employees

Following table lists server recommendations for Workforce Analytics. Customers with 5,000 employees to 12,000 employees can use the following hardware estimates as budgeting purposes. Please consult a Kronos service consultant to analyze your specific requirements and make server recommendations for purchasing hardware based on the pre-implementation workshop.

Workforce Analytics	Up to 7500 employees	Up to 12,000 employees
DATABASE SERVER	3 cores with 12GB RAM	4 cores with 16GB RAM
APPLICATION SERVER	3 Cores with 12GB RAM	4 Cores with 16GB RAM
ETL SERVER	2 Cores with 8GB RAM	2 Cores with 8GB RAM
DISK SPACE (GB)	500	550
DATABASE BACKUPS (GB)	200	200

Note: Workforce Analytics for Healthcare does not support the Oracle database.

Oracle Client 11g R1 is required if you are deploying a linked Oracle Workforce Central Server to a Microsoft SQL Server Workforce Analytics data mart, Oracle Client 11g R2 is not supported in this configuration.

Server recommendations for customer size larger than 12,000 employees

Please contact your Kronos representative for a detailed hardware recommendation.

Supported technology

Desktop requirements					
Browser			Operating System		
Vendor	Product	Version	Vendor	Product	Version
Microsoft	Internet Explorer	8 (32 bit), 9, and 10 (32 & 64 bit)	Microsoft	Windows 8 - 64-bit (Desktop Mode only)	
				Windows 7 - 32-bit and 64-bit	
				Windows XP - 32-bit	SP2
				Windows Server 2008 - 64-bit only	
Mozilla	Firefox 32-bit	Version 17 or higher		Windows Server 2008 R2 - 64 bit	
Apple ♦	Safari	6	Apple ♦	Mac OS-X 10.7 & 10.8	

Note: For Safari browser/OS X clients, JRE is provided by Oracle
 Firefox does not support HRMS Admin
 IE10 – Compatibility mode must be turned off and not supported by Analytics

CPU	Intel-based Pentium 4 or AMD equivalent; 2 GHz+ recommended
RAM	2GB minimum (required for Navigator framework) 4GB recommended
Cache	256KB/L2 recommended
Display	1,024 x 768 with 256 Color Recommended; Minimum graphics memory: 128 MB
Network Protocol	HTTP or HTTPS
Network Bandwidth	LAN Connection: Gigabit network recommended WAN Connection: Fractional T1 or (T1+ recommended)

Workforce Timekeeper v7 requires Cookies to be enabled and Active-X controls must be permitted.

Navigator user interface			
Vendor	Product	Version	Operating System
Adobe	Flash	11.1+	Same as supported Browsers

Only required if Workforce Navigator is used.

Java Plug-in			
Vendor	Product	Version	Operating System
Oracle	Java Plug-in (JRE)	Supports JRE 1.7 Family with a minimum of JRE 1.7.0_21 (ships with product)	Same as supported Browsers

Mobile	
Device type	Platform
Apple	iOS 3.1 & up (iPhone), iOS 3.1.1 & up (iPod touch) iOS 4.2 & up (iPad)
Android	OS 2.x & up
BlackBerry	OS 4.5.0 & up, OS 4.6.0 & up, OS 5.0.0 & up, OS 6.0.0 & up
Nokia	Series 40 3rd Edition & up, Series 40 5th Edition & up Series 60 3rd Edition Feature Pack 1 & up Series 60 5th Edition & up

Tablet	
Device type	Platform
Apple	iOS 5.1 up (iPad)

Server Virtualization		
All components of Workforce Central and Analytics can be run on VM with following exceptions. Teletime 6 (Classic), Teletime-IP 7 cannot be run on a VM. Workforce Central Database server tier can be on a VM for customer sizes up to 5,000 employees. Customer sizes larger than 5,000 employees are recommended to use a physical server. Analytics Database server needs to be physical server for all customer sizes.		
Vendor	Product	Operating System
Microsoft	Hyper-V	Microsoft Windows Server 2008 R2
VMware	VSphere v5+ ESXi Hypervisor v4.1+	Microsoft Windows Server 2008 – 64 Bit Microsoft Windows Server 2008 R2 – 64 Bit

Desktop Virtualization			
Citrix Version	Platform Operating System	Citrix Version	Platform Operating System
XenApp v5	Microsoft Windows 2008 Server	XenApp v6	Microsoft Windows 2008 Server 64-Bit
		XenApp v6	Microsoft Windows 2008 R2 Server 64-Bit

Microsoft Terminal Server is also supported.

Web Server			Operating System		
Vendor	Product	Version	Vendor	Product	Version
Microsoft	IIS	V7.0	Microsoft	Windows Server 2008 - 64-bit	
		V 7.5		Windows Server 2008 R2 - 64 bit	
Apache ♦	Web Server	v2.4.3	Microsoft	Windows Server 2008 - 64-bit	
				Windows Server 2008 R2 - 64 bit	
			Oracle/Sun	Solaris (SPARC)	10 & 11
			Novell	SUSE Linux Enterprise	11
			IBM	AIX (pSeries)	6.1 & 7.1

Application Server			Operating System		
Vendor	Product	Version	Vendor	Product	Version
JBoss	EAP	V6.0	Microsoft	Windows Server 2008 - 64-bit	
				Windows Server 2008 R2 - 64 bit	
			Oracle/Sun ♦	Solaris (SPARC)	10 & 11
			Novell ♦	SUSE Enterprise Linux	11
			IBM ♦	AIX (pSeries)	6.1 & 7.1

Application Server Workforce Analytics			Operating System		
Vendor	Product	Version	Vendor	Product	Version
Apache	Tomcat	v6.0.32	Microsoft	Windows Server 2008 - 64-bit	
MicroStrategy	MicroStrategy	v9.2.1		Windows Server 2008 R2 - 64 bit	

Workforce Analytics Office Add-in			Operating System		
Vendor	Product	Version	Vendor	Product	Version
Microsoft	Office Professional and Enterprise	2010	Microsoft	Windows 8 - 64-bit	
		2007 SP2		Windows 7 - 32-bit and 64-bit	
		2003 SP3		Windows XP	SP3

Database Server Technology Support	
Database	Operating System
Oracle 10gR2 (10.2.0.1), 11gR1 (11.1.0) and 11gR2 (11.2) 32-bit and 64-bit ♦	All operating systems that Oracle supports for these database versions
Microsoft SQL Server 2005 - 32-bit and 64-Bit Microsoft SQL Server 2008 - 32-bit and 64-Bit Microsoft SQL Server 2008 R2 - 64 bit Microsoft SQL Server 2012 - 64 bit ❖ Standard, Workgroups, Small Business, and Enterprise editions only	All operating systems that Microsoft supports for these database versions

♦ Not supported with HRMS
❖ Not supported by Analytics

