



JAWWS  
J-Accomplish With Web Services v4.0

ITG White Paper  
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## J-Accomplish With Web Services v4.0

### Introduction

J-Accomplish is a flexible suite of web-based tools designed to assist the complex organization in accomplishing its mission through enhanced collaboration and communication. J-Accomplish provides uniform system architecture and user interface designed to allow interoperability between applications and their respective data and makes the overall user experience more productive and efficient. Built-in web services capabilities further enhance communication and collaboration between J-Accomplish and the rest of the organization's information management infrastructure.

### The Complex Organization

Phil is an executive within a government agency with a world-wide mission and multiple global locations. Each location produces different outputs, comprised of different work processes and activities. Phil is confident in the capabilities of his location managers, but he needs a more analytical process in order to determine the manpower required for each location, justify his budget and staffing levels, maximize output, and thoroughly fulfill the mission.

Linda's organization consists of ten project managers each coordinating the efforts of five to seven technical specialists. Each specialist is assigned to a different physical location across five countries. Linda requires a uniform communication method to monitor personnel changes within her organization, plan for future requirements and maintain an inventory of her team's human capital resources and capabilities.

James directs a logistics company with warehousing and distribution centers in three states and has recently opened two new facilities in Mexico. He based his staffing plan for the Mexico facilities based on the staffing at his domestic locations but is constantly hearing that his field managers do not have the right personnel. He needs a solution that will enable him to evaluate the differences between his locations and adjust his staffing accordingly.

The challenges facing today's organization are unlike those of the past. Today agility and flexibility are no longer a means to get ahead of the game; they are necessary tools for survival. J-Accomplish provides these tools, enabling the complex organization to maximize its communication and collaboration potential.

## Application Overview

J-Accomplish helps the complex organization answer the following four critical questions:

1. What do we produce?
2. How do we produce it?
3. How much do we produce?
4. Who within our organizations is producing it?

In order to answer those four questions, J-Accomplish has been constructed in a modular fashion wherein each module or "Zone" is designed to provide access to logically grouped system functionality. The data within each Zone are interchangeable and configurable to allow multiple types of user interaction based on the desired level of user access.

What do we produce?

The "My Organization" zone of J-Accomplish provides robust tools for capture of complex work breakdown structures. Using a Hierarchy of Work Units (HWU) to define the organization's processes from the top down, J-Accomplish ensures that all activities support the organization's mission. J-Accomplish also captures qualitative dimensions of work such as performance standards, Critical to Quality metrics and pre-defined tolerance levels.

How do we produce it?

Beyond capturing the procedural requirements for an organization's goods and services, J-Accomplish provides tools in the "Measurement" zone to evaluate the Human Capital components necessary to complete the mission. Using competency and proficiency data to provide a linkage from the organization's Processes to its defined Skills and Job Titles, J-Accomplish provides tools to evaluate the effective resources employed to execute the mission.

How much do we produce?

The basic formula for calculation of workload is fairly simple: activity frequency multiplied by cycle time yields total man-hours. But, many organizations lack sufficient historical data to evaluate ongoing production requirements. To address this shortcoming the "Measurement" zone of J-Accomplish provides the framework for Virtual Workshops wherein team members operating from locations worldwide can simultaneously and collaboratively assemble existing data or leverage their expertise to build accurate projections.

Who within our organizations is producing it?

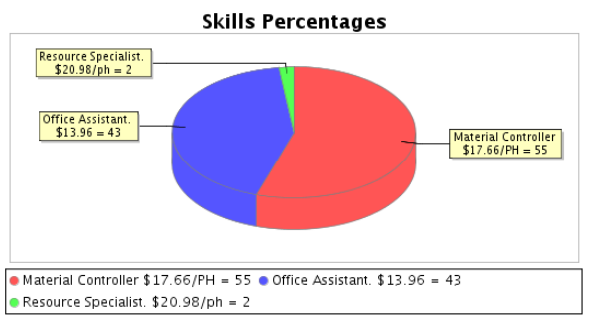
The “Workforce Planning” zone of J-Accomplish captures the organization’s managerial and financial structure and employs Point-In-Time Manning to provide real-time visibility into current job positions and managerial hierarchies. With support for multiple fiscal years, J-Accomplish also captures the future state organization and identifies personnel shortfalls in critical areas for present planning.

J-Accomplish enables specification of which functional tasks and outputs are produced within the identified structure and which personnel are filling the positions. The TimeTaskr plug-in for J-Accomplish extends the application’s measurement capabilities. Using the definitions from baseline measurement, J-Accomplish provides a mechanism for measuring ongoing output production and time spend on each associated process task. This module also provides management with visibility into opportunities for operational improvement.

## Technical Innovation

### WARPFactors™

WARPFactors (Workload Accelerated Requirements Processing) combines the J-Accomplish Virtual Workshop approach and skills analysis tools with robust correlation and regression calculation to streamline the requirements standards development process. Where historical standards development emphasized correlation of total work center workload to one or more factors, WARPFactors provides the analyst with the ability to evaluate workload correlated to specific Work Outputs.



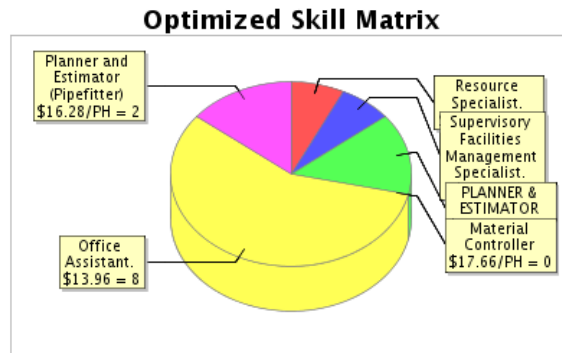
Combining this enhanced level of granularity with data relating Skills with Work Output production, J-Accomplish empowers organizations to pinpoint specific manpower position requirements under multiple environmental scenarios to ensure adequate coverage for the function across multiple locations.

Beyond simplified linear regression models, WARPFactors simultaneously tests for correlation using linear, parabolic, ratio curve and power curve algorithms. By allowing for various relationships between environmental factors and workload, J-Accomplish increases the accuracy of manpower requirements.

## Workload Optimization

As a compliment to the J-Accomplish work definitions and workload measurement tools, the J-Accomplish Optimization functionality provides the user with tools to perform optimization analysis on data captured in the “Measurement” zone to arrive at a more efficient organization. Optimization is made possible by J-Accomplish's ability to map each Process to not only

those Skills currently performing the work at a particular Cost Center, but to all Skills which could potentially perform the work across all Locations where the Work Center's activities are performed.



Coupling these data with Workload Measurement data captured as part of baseline measurement, the J-Accomplish Optimization functionality implements Mixed Integer Programming techniques to enable the user to derive the most cost-effective combination of Skills to accomplish the Workload at individual Work Center Locations.

J-Accomplish also takes into consideration those skills which require a whole FTE manpower requirement and those which are either part-time or contractible requirements. This same analysis allows the user to simulate Work Center consolidation scenarios wherein the workload from multiple Locations is combined into a central Location. The resulting reports provide the user with the ability to compare past, existing and theoretical organizational structures based on past or planned operating conditions.

## Technical Overview

J-Accomplish is a scalable, platform-independent web application developed using Sun Microsystems' Java programming language—specifically the Java Enterprise Edition (J2EE) API. J-Accomplish uses the Model-View-Controller (MVC) Model 2 architecture to manage database connectivity and persistence, business logic and presentation.

J-Accomplish v4.0 is deployed using a combination of the Tomcat Server developed and managed by the Apache Software Foundation, Inc.

The Apache HTTP server has been the most popular web server on the Internet since 1996. The October 2003 Netcraft Web Server Survey found that more than 64% of the web sites on the Internet are using Apache, thus making it more widely used than all other web servers combined.<sup>1</sup>

Tomcat is the servlet container that is used in the official Reference Implementation for the Java Servlet and JavaServer Pages technologies.<sup>2</sup>

J-Accomplish is designed to support secure transmission of data using Secure Socket Layer (SSL) technology. This ensures that each request to and response from the server is encrypted for safe transmission of data.

Java Database Connectivity (JDBC) allows applications built with Java to interface with a variety of Relational Database Management Systems (RDBMS). The default configuration of J-Accomplish v1.0 utilizes the award-winning<sup>3</sup> PostgreSQL Database Server v.8.3.

With a 16 year development history, one of the strongest development communities in the world, and a global reputation for high quality software engineering, PostgreSQL gets the job done and with no hassles.<sup>4</sup>

As an n-tiered application, J-Accomplish has been designed for numerous potential configurations ranging from a single server to a grouping of servers designed to balance system activities. For example, a customer may decide to implement J-Accomplish in a single-server environment or a multiple-server environment in a load-balancing configuration with each server group handling a specific functional area.

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<sup>1</sup> The Number One HTTP Server On The Internet <<http://httpd.apache.org/index.html>>

<sup>2</sup> Apache Tomcat <<http://jakarta.apache.org/tomcat/index.html>>

<sup>3</sup> Winner Linux Journal's 2003 Editor's Choice Award for Best Database Server

<sup>4</sup> The Most Advanced Open Source Database System in the World <<http://advocacy.postgresql.org/index.html>>

## Configurability

Configurability and flexibility are at the heart of the J-Accomplish application. J-Accomplish allows for a highly-modifiable presentation through the combination of the J-Accomplish Configuration Manager and customized Cascading Style Sheets.

The organizational structure allows for each Organization within the Enterprise to implement a specific look and feel for the application, enhancing the user experience, without compromising the uniformity of the data required by the Enterprise.

## Internationalization

Today's complex organizations do not rely on a single language of communication, neither does J-Accomplish. The User Management interface allows specification of a default language bundle for each user. The language bundle for each organization is customized according to the configuration needs and can be acquired by contacting the ITG's Business Development Group.

## Customization and Extensibility

The J-Accomplish Application Programming Interface (API) allows for development of additional functionality to enhance the features of the Application Suite for the Client's Enterprise-specific needs. Additionally, customized modules can be developed in consultation with ITG by contacting ITG's Business Development Group.

## Notes

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