J-Accomplish v3.0
(Management Engineering Suite)

ITG White Paper
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Introduction

J-Accomplish is a flexible suite of web-based tools designed to assist complex organizations in accomplishing goals through enhanced collaboration and communication. J-Accomplish provides a uniform system architecture and user interface designed to allow interoperability between applications and their respective data. The product is further enhanced by the incorporation of communication and collaboration tools designed to make the overall user experience more productive and efficient.

The Complex Organization

Phil manages 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 consulting 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. Personnel in two of the five countries speak a primary language other than English. Linda requires a uniform communication method to ensure project status and progress as well as a secure channel for sharing data.

James manages a manufacturing company with factories in three states as well as two in Mexico. To minimize costs, email is currently the primary method of communication for his organization but is proving to be ineffective and unreliable. James fears that direct feedback from employees at his Mexico plants is bottlenecked in the company's existing communication channels. He wants to expand accessibility to on-line information in order to improve collaboration among facilities and external common material suppliers.

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…

"Delegate, Communicate, Collaborate…J-Accomplish"

Modules

J-Accomplish has been designed in a modular fashion to provide multiple configurations, each designed to meet the specific needs of the organization. These modules are interchangeable and configurable to allow multiple types of user interaction based on the desired level of user access.

Functionally-Enhanced Man-hours and Workload Module (FENYX)

The Functionally-Enhanced Man-hours and Workload Module (FENYX) is designed to provide organizations with tools to define the organization's functional structure and activities and outputs performed within that structure. FENYX also captures key performance metrics such as per-accomplishment time, location-specific performance indicators, and on job skill necessary to perform particular tasks.

Live Table of Manning Accountability System Module (LTMAS)

The Live Table of Manning Accountability System Module (LTMAS) defines the organization's managerial and financial structure giving the user real-time visibility into the current job positions and managerial hierarchy. LTMAS also allows the user to specify which functional tasks and outputs are produced within the identified structure and which personnel are filling the positions.

Workload Tool Module (WLT)

Coupling the functional structure of the FENYX module and the managerial structure of LTMAS, the Workload Tool Module (WLT) provides a mechanism of measuring ongoing output production and time spend on each associated process task. This module also provides management with visibility into opportunities for operational improvement.

Communication and Collaboration Tools

Coupled with the Management Engineering functionality, J-Accomplish contains several complementary tools to enhance communication and improve collaboration among team members:

- Enterprise and Organization Calendars
- File Sharing
- Contacts Management
- Message Board Discussion Groups
- Categorized Web Links
- Internal Messaging
- Task Assignment Management

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 v3.0 is deployed using a combination of the Apache HTTP Server and the Jakarta Tomcat Server both 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.[1]
>
> Tomcat is the servlet container that is used in the official Reference Implementation for the Java Servlet and JavaServer Pages technologies.[2]

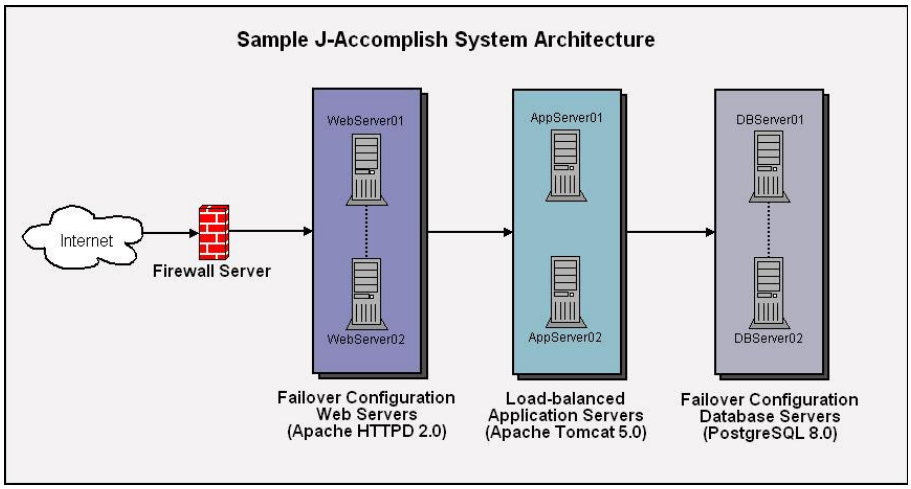
J-Accomplish is designed to support secure transmission of data using Secure Socket Layer (SSL) technology. This ensures that each request to and response from the server is encrypted for safe transmission of data.

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[3] PostgreSQL Database Server v.8.0.

> 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.[4]

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:

[1] The Number One HTTP Server On The Internet <http://httpd.apache.org/index.html>
[2] Apache Tomcat <http://jakarta.apache.org/tomcat/index.html>
[3] Winner Linux Journal's 2003 Editor's Choice Award for Best Database Server
[4] 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.

Functional Areas

The Management Engineering Module is broken down into two primary functional areas—Management Engineering Data and Personnel Management Data. The distinction between these two functional areas can best be described as the difference between a newspaper photograph (Management Engineering Data) and a live television feed (Personnel Management Data). The Management Engineering Data represents data gathered during a fixed, specified period of time. The Personnel Management Data is more transactional in nature and reflects incremental changes over time in an ongoing fashion. Management Engineering Data is concerned with the outputs produced by an Organization; Personnel Management Data is concerned with who is, or who has been, performing the work at a given point in time.

Management Engineering Data

Work Centers and Locations

A Work Center is defined as personnel, usually located in a centralized area, who use similar machines, processes, methods, and operations to do homogeneous work. The term is used to identify a relatively small activity within a broad functional segment. Personnel within a work center do work that basically contributes to the same end product or result. J-Accomplish expands the capability of the user by enabling the user to generate aggregate reporting across multiple Work Centers.

A Work Center Location represents a physical location where activities of a given Work Center take place. While it is necessary to have at least one Work Center Location for each Work Center, the decision to implement one or multiple Work Center Locations is driven by the following considerations: primarily, the level of granularity at which measurement data is to be gathered and reported; the relative cost of a given Skill based on the Work Center Location where it is performed; certain location-specific Total Cost Management functions, such as State Unemployment Insurance rates. The user may also decide to implement multiple Work Center Locations to accommodate differences in Accomplishment Times among differing Work Center Locations.

Work Outputs

A Work Output is defined as an amount of work or the result of an amount of work that is convenient to treat as a countable end item. It describes all or a measurable portion of the work required to produce a product or service. As such, a Work Output provides a basis for:

- Substantively supporting manpower aspects of budget
- Developing unit labor costs
- Planning and assigning work
- Continually reviewing workload forecasts and ongoing manpower utilization
- Continually comparing performance with plans
- Measuring the productivity of the organization
- Authenticating the mission
- Identifying work count

Hierarchy of Work Units

The Hierarchy of Work Units is a tree diagramming technique used to identify and classify the outputs of an individual or an organization using a systematic, top-down approach. The technique is particularly useful for identifying the final outputs of service operations that are difficult to measure.

The Hierarchy of Work Units concept begins with the total organization and, in an orderly manner, breaks down the organization's responsibilities into successively smaller outputs. The result of this breakdown process is that all required work of an organization is represented as end products or services in relationship to the organization's mission, which can be called a Hierarchy of Work Units. Each successive level is normally made up of two or more smaller outputs. Throughout this process, a clearly visible relationship between the objectives and the work units is maintained. This delineation continues until the following criteria are met:

- A suitable level of detail is reached such that meaningful forecasts can be made of outputs.
- A level of detail is reached such that outputs can be meaningfully quantified.
- The list of outputs is exhaustive and mutually exclusive.

Processes and Process Groups

A Process is defined as progressive, interdependent and measurable activities resulting in Work Outputs. Each Process is defined as belonging to both a Work Output and a Process Group. A Process Group is a logical grouping of Processes for purposes of reporting. When creating or modifying a Process, the user will determine the Process Group to which the Process belongs.

Workload Factors

A Workload Factor is a unit of measure that is consistently expressive of, or relatable to, the manpower required to accomplish the responsibilities of a Work Center. These responsibilities can be quantitatively and qualitatively defined. The Workload Factor is one of the components necessary to create a Staffing Equation. It may be an end product (or combination of products) that represents all the work performed in a Work Center. It may be something physically produced in the Work Center (referred to as a production-type workload factor) or something external to, but served by, the Work Center (referred to as a work generator- type workload factor). Fundamentally, a Workload Factor represents a higher aggregation of work than does a work unit.

Management Engineering Data Measurement

Measurement of Work Outputs and Workload Factors may be conducted throughout the course of a study being undertaken. Because Accomplishment Times for individual Processes may differ by Work Center Location, J-Accomplish allows the user to enter Accomplishment Times accordingly. Accomplishment Times may vary, based on the relative difficulty of the individual execution of a Process. J-Accomplish provides for such situations by allowing the user to specify Accomplishment times where the Process may Difficult, Normal or Easy (DNE). When creating a DNE Accomplishment Time definition, the user will also specify the relative Difficult, Normal and Easy percentage of the Process. Likewise, completion of individual Processes may require more than a single Skill; J-Accomplish allows the user to relate multiple Skills to the Process. This relationship is defined as the percentage of time required of a Skill in completion of the Process. For increased accuracy, the percentage may vary based on the Work Center Location at which the Process is being executed.

Personnel Management Data

Cost Centers and Cost Center Groups

A Cost Center is identified by J-Accomplish as the smallest unit of activities or area of responsibility for which accounts are maintained. Based on this definition, a Cost Center may represent a small division or functional group. Additionally, the Cost Center is the level of the Organization at which Work Output Counts are tracked in an ongoing fashion using the Workload Tool. A Cost Center Group is defined in J-Accomplish as a hierarchical grouping of Cost Centers—in some cases pertaining to a collection of Cost Centers at a specific location or under the authority of a central office.

Cost Center Positions and Personnel

J-Accomplish defines a Cost Center Position as a specific combination of Title, Grade and Position Type identified within a specific Cost Center. After creation of a Cost Center Position, the user may identify specific Personnel currently filling the Cost Center Position. Additionally, J-Accomplish provides

the user with the ability to create special categories of Cost Center Positions representing "over-strength" and "contractor" Personnel.

Financial Cost Centers and Financials Data

In order to provide integration with enterprise accounting systems, J-Accomplish provides the ability to capture alternate Cost Center information in the form of Financial Cost Centers. Financial Cost Centers act as a functional cross-reference between the coding system of J-Accomplish and that of the financial management system. By incorporating the Financial Cost Center, J-Accomplish provides tools for analysis of financial data relative to the work performed.

Customization and Extensibility

The J-Accomplish Application Programming Interface (API) allows for development of additional functionality to enhance the features of the Management Engineering Suite for your 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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