1. Product Overview

Holocentric’s flagship product, Holocentric Modeler, is a general purpose modeling environment that allows users to model, communicate, and manage both organizational and technology environments. Its various organizational modeling capabilities bring together strategies and goals, organizational structures and functions, people and roles, business processes and IT systems. Its capabilities deliver the environment necessary for aligning an organization’s business process requirements.

Holocentric Modeler supports a range of enterprise architecture and business process analysis and modeling activities, including

- Compliance and risk
- Business performance improvement
- Human performance improvement
- Supply chain management
- Enterprise architecture
- Systems requirements and fulfillment
- Software reengineering

Table 1 gives an overview of the Holocentric Modeler product. Holocentric Modeler offers an easily deployable product that provides broad coverage from organization and business process modeling through technology modeling and round-trip engineering of IT systems.

Holocentric Modeler utilizes what the company emphasizes is a role-based business process modeling approach designed to ensure that a functional role identified in a model explicitly carries with it the responsibilities, competencies, and skills required. This is considered to be an innovative capability of the Holocentric Modeler, whereby the human elements of the process are considered alongside the technology and business elements. This is particularly useful in understanding the change management implications of process changes within an organization.

Holocentric believes that products need to be usable by end users as well as analysts and architects so that all can contribute, based on their individual understanding and perspective. The breadth of the Holocentric Modeler, coupled with its ability to cater for different end user perspectives delivers a broad capability toolset. This allows the view and toolset available to the Executive sponsor to be quite different from that of an Information Architect, even though they may be working on the same project.

Holocentric Modeler has been designed as an interactive presentation tool. As well as publishing models to an internet or intranet site, it is used to drive workshops for business process improvement. It achieves this by supporting general diagrams to represent different views and by having a flexible publishing model that appeals to a broader audience than the tool users. A tool user can utilize their favored methodology and then change the model to a presentation mode for workshop discussion. This
means that effort to convert models into PowerPoint is not required. In addition, the integrity of the models is maintained and changes can be made in situ.

In addition to providing enterprise architecture support and process modeling capabilities, with the addition of specific add-in modules, Holocentric Modeler also handles forward and reverse engineering of information systems in a variety of programming languages. Thus, it is accessible to both business users and analysts who are interested in the business processes and their relationship to the organization as well as to the technology designers and developers who need to consider software engineering detail.

### Table 1. Overview of Holocentric Modeler Product Suite

<table>
<thead>
<tr>
<th>Component</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Holocentric Modeler</td>
<td>Business process modeling and analysis component. Provides a visual representation of an organization’s strategy, plans, and goals, and the business processes required to support these goals. Supports various process modeling approaches, including BPMN, UML, and role-based process modeling. UML-based software engineering and modeling component. Relates the business requirements defined in the process models to technology requirements for IT systems development. Interfaces to other development environments via XML. Methodology independent, although Holocentric offers its own methodology (Systems Development Lifecycle).</td>
</tr>
<tr>
<td>Holocentric Modeler Team Add-In</td>
<td>Add-on module that supports multiple users for team development. Provides sophisticated capabilities to allocate the work amongst team members, model locking, and administration and control features, which improve security and integrity over all model items. Work can be divided between team members, defining who can update at the item level.</td>
</tr>
<tr>
<td>Pre-built Models &amp; Templates</td>
<td>Holocentric Enterprise Management Reference Model, IT Infrastructure Library IT Service Management Template, ISO 12207 Software Lifecycle Template, SCOR Framework.</td>
</tr>
<tr>
<td>Modeler Language Add-Ins</td>
<td>Add-Ins extend the base tool environment by adding editor support and import/export (i.e., reverse engineering and code generation) facilities to support specific programming languages and environments. Add-Ins are available for a variety of language including C#, Visual Studio.Net, Delphi, Java, C++, VBX, Smalltalk, UDS-Forte 4GL, Gupta/Centura, Python, and AdvantageGen. Available as a plug-in within Microsoft Visual Studio. Source code generated from can be used with Visual Studio .Net; also works with code created within Visual Studio .Net environment.</td>
</tr>
<tr>
<td>Accelerators</td>
<td>Various templates, models, and methodologies packaged to deliver rapid time to benefit. Available Accelerators include Supply Chain Accelerator; Software Re-engineering Accelerator; Active Investment Management(AIM®) Accelerator, and AIM Project Governance Accelerator.</td>
</tr>
</tbody>
</table>

Tight integration with Microsoft technologies makes the various components comprising the tool easily accessible by Microsoft software development tools, portal, and Office applications.

Holocentric Modeler makes extensive use of UML, BPMN, XML, and XMI for process/systems modeling and management of associated information. In addition, close adherence to the OMG’s Model Driven Architecture (MDA) means the tool can support virtually any modeling construct.

Models and associated information developed in Holocentric Modeler can be published in HTML format. A standard report format is provided, or a customer can modify templates to support their own corporate standard. An optional “Add-In” module is available that allows Holocentric Modeler to be used for team development. A number of horizontal and industry frameworks are also available for use with Holocentric Modeler.
2. Product Architecture

2.1 Architecture Overview

Figure 1 provides an overview of the Holocentric Modeler architecture and its different levels of capability. The key to Holocentric Modeler is that it is built on a metamodel that provides the ability to build and customize Modeler products. This metamodel is based on the OMG’s Meta Object facility (MOF) (shown in Figure 2) and Model Driven Architecture (MDA), which allows developers to customize the tool to support virtually any modeling approaches, methodologies, frameworks, and application architectures. Holocentric uses the Modeler to maintain the application architecture and source code of the product.

Holocentric Modeler is available with various layers of specialization. At one extreme, a highly customized solution to a specific business issue for an individual organization can be provided. This can include the embedded methodology, standards, terminology, rules enforcement, menus, and commands. At the other extreme, generic services may be used by tool builders to build a product with different item types, diagrams, rules, and menus. Importantly, it is not necessary to work in a strictly hierarchical manner, so that an organization specific solution may be built on a solution layer, a framework, product, services, or a mixture of any of these.

The organization layer provides specific solutions to business issues within a customer environment. For example, this could be the implementation of Sarbanes Oxley compliance in accordance with the corporate standards and practices. Typically, this would be a very specific solution with little flexibility for the users of the product. In providing this solution, customers can select from any of the lower layers to build organization-specific and methodologically enforced solutions, so that greater standardization for the organization is achieved.
The solutions layer addresses generic business issues and typically incorporates capability from the product layer combined with tailored capability built using the services layer. As previously mentioned, Holocentric addresses seven solution areas. These may be supplemented by partners who can utilize underlying functionality to address additional business issues.

The frameworks layer provides pre-built models, which may be applied to generic and specific issues. These may be vertical industry templates such as distribution processes or may operate across industries through templates such as the systems development lifecycle. The models are built upon the capabilities provided through the product layer, such as a role based process model or a class model for software development.

The product layer provides capabilities such as role-based process models, BPMN diagrams, class diagrams, and many more. Standard integrity checks are built using underlying services such as the scripting tools. Standard reports are provided using the reporting services. The capabilities in this layer are packaged into the Holocentric Modeler product.

The services layer allows customers to build their own diagram types, library items, and relationships utilizing the common services such as diagramming, library search, navigation of relationships, interfaces to external tools, and publishing through Word documents or HTML.

The Holocentric Modeler architecture allows customers to determine the appropriate level of rigor which is required and to implement within their organization. This may be a standard “out of the box” solution or, at the extreme, a highly customized solution designed to support and enforce corporate standards.

Figure 2. Holocentric’s Meta-model is based on the OMG’s MOF/MDA.
2.2 Usability and User Interface

Holocentric Modeler can operate in single mode or multi-user modes. One of Holocentric’s main goals is to ensure that users do not require significant investment from their IT departments for support. As a result, Holocentric Modeler has been designed to be so unobtrusive that users are required only to install client software, requiring no additional software or database. The product is designed to operate either stand-alone or with a repository, allowing sharing of information with other products.

Holocentric Modeler supports both business and technical users by allowing them to select the user perspective best suited to their needs and goals. Basically, a user perspective corresponds to a set of roles. Each perspective adds to the tool’s menu the functions used by the roles – in short, allowing a subset of the tool’s capability to be presented, as appropriate. For instance, a business analyst has a specific perspective that omits more technical functions, such as importing source code, while a programmer sees specific language support within the product. This feature allows Holocentric to provide a very rich set of functionality with the product, while simplifying its operation for individual users. In addition, Holocentric Modeler’s application architecture allows the product to be configured based on a license key. This means that customers can license different aspects of the product and enjoy flexibility in purchasing options.

Figure 3 shows the Holocentric Modeler GUI. Users can create roles, activities, and processes through a simple add, select, and place approach via the tool’s palette on each process diagram. Users can create overview diagrams, showing items of any type from within the model and relationships between them. This provides a quick and easy means to present information to stakeholders in different ways, and to provide a navigation path through the model tailored to specific audiences.

Users can also add links to external documents and other resources to extend the model. The tool allows users to generate fully cross-referenced websites. These websites can include external links, allowing users to incorporate virtually any content into the site. Models or parts of models can then be easily generated as web pages that allow flexible navigation of models (and associated information) by end users.
While the implementation of change in organizations is often complex, it is typically the cultural change to be implemented via people and changing roles that is the most difficult to define and model. Holocentric places a great deal of emphasis on people. For example, in the diagram shown in Figure 3 (and throughout its associated process models), it is important to understand not just what the process is, but who is responsible for the process and whom the process affects. As a result, in Holocentric Modeler, users can view the organization perspective as well as the definition of roles. This allows users to build a complete role definition, not as a separate exercise, but as an additional benefit of building process models. This provides a very strong link through to the implementation of changes in processes and people.

2.3 Repository Options/Team Development

Holocentric Modeler can be used in single mode or multi-user modes. All configurations of the application allow import/export of data in a large range of formats, including XML, binary, and even byte code. An optional team add-in module enables multi-user access to models with item-level locking, along with team consolidation and administration, which ensures that users can gain access to models and share them easily.

An upcoming Enterprise Server version is targeted for availability in Q3 2006 that will allow for greater centralized management of integrated, large model repositories. This will enable easier interaction and integration with related tools, such as requirements management.

2.4 Integration with Other Products

Holocentric Modeler has a number of core features that allow interoperability with other products, along with the use of a range of standards-based import/export formats.

Holocentric Modeler can act as both a COM client and server. It also features a complete scripting language that integrates seamlessly with COM and which can also be used within report templates.

The tool can import and export XMI for UML (software modeling) and CWM (data warehouse modeling), and a variety of technology-based tools exist that use XMI for interchange of model information. Users can also create custom import and export formats. A BPEL export capability is also available.

Holocentric Modeler interfaces with and utilizes the capabilities of Microsoft Office. As well as being able to link to external documents, Holocentric Modeler

- Produces documents in Microsoft Word
- Uses Microsoft Excel to export path information and perform analysis and simulation
- Publishes websites and model information into Microsoft Sharepoint
- Understands and models dependencies which can be used for planning through Microsoft Project
- Generates Infopath schema from class specifications
- Supports a bi-directional interface with SQL databases to update model property values

Holocentric Modeler includes an add-in for Microsoft’s Visual Studio development environment, providing synchronized, round-trip integration for software design and development.
3. Analysis and Process Modeling

3.1 Enterprise and Organization Models

Enterprise Architecture Models
Holocentric Modeler provides support for a variety of enterprise architecture approaches without forcing users to adopt a specific representation. Because the product is based on a “meta-driven approach,” end-user organizations can customize the tool to support different enterprise architecture models and methodologies.

The standard product ships with support for the Zachman framework, allowing bi-directional links to be established between elements within the Zachman Framework and the full variety of artifacts within the product. These artifacts can include proxy items to external documents or any URL.

Organization Models
Business Modeler provides the ability to model organizations down through roles to people. Because the business process models employ a role-based approach, the processes are inherently linked to roles, which in turn belong to organizational units and organizational structures. In addition, organizations can be modeled through various depictions such as a conventional functional representation or through horizontal processes and value chains.

Resource and Cost Modeling
The standard product supports modeling of a range of resource categories, including costs or processes, salaries of people, equipment required, and so on. Additionally, the product is extensible and allows users to define their own stereotypes for items. In this manner, diagram styles, user-defined properties, and more can be specified and overlaid on standard items within the tool.

Mapping Organization Strategies to Performance Measures
Holocentric Modeler provides a number of options for representing performance strategies and goals. These include value chain analysis and balanced scorecard. Other representations can be added. Each of these can be mapped to the process areas and processes, and the relationships built throughout the models are inherited up to the strategy level.

Managing Process Portfolios
Holocentric Modeler provides a convenient set of model-management utilities that allow processes to be managed across an organization. Processes can be assigned to catalogs and sub-catalogs to provide visibility over a subset of the total repository to suit specific needs. The process repository can be navigated through scripting programs that allow access to all information, with additional rules enforced. Additionally, the process portfolio can be partitioned and work assigned to individuals. When completed, the work can be consolidated back into the repository.

3.2 Defining Processes

Defining Processes
Holocentric Modeler allows users to define processes using a variety of techniques, such as Holocentric’s role-based process maps (RBPM), or by using the OMG’s BPMN or UML activity diagrams. You can also combine more than one method within a model. This allows users to visualize and communicate business processes and systems at the level of detail best suited to their audience and modeling goals.

Holocentric’s role-based process models allow the user to define roles, activities, and the relationships between them, resulting in activities being defined that always have clearly defined roles, each with their own responsibilities, as shown in Figure 4. In performing an activity or task, people or systems fulfill roles. Roles are modeled using UML-based actors. A process is a set of roles and activities that work together to produce a significant outcome that assists the business to meet its goals. Users create
business process diagrams that illustrate how the roles and activities communicate to achieve the process outcome.

As noted previously, the roles form part of the organization structure, providing very capable impact analysis capabilities regarding the implementation of change and how this relates to people within the organization.

**Process Information Storage and Integrity**
Holocentric Modeler ensures that core rules are applied at the time the diagram and other items are created and as they are maintained so that process models are structurally correct. Further validation and efficiency checks can then be executed over models to ensure a high degree of consistency.

Integrity is also maintained across the entire model when model elements are consolidated in a team environment. Validation rules can also be defined for user-defined metadata, which helps ensure that user-specific information is also consistent.

**Graphical Notations**
Holocentric Modeler allows users to define processes, such as BPMN and other diagram types, including UML Class and Sequence Diagrams, entity-relationship diagrams and state charts using a range of in-built styles. Additionally, user-defined node and connection styles can be created and used in addition to the standard styles offered by the tool.

The ability to create user-defined node and connection styles means that existing notations can be either modified or extended, and that new notations can be incorporated within the product. Custom styles appear as additional diagram tools, resulting in seamless integration into the product.

**3.3 Subprocesses and Activities**
**Handling Subprocesses and Activities**
Holocentric Modeler supports the nesting of processes and subprocesses down to individual activities, as part of the overall process model.
BPMN models offer the standard capability of nesting processes down to the task level, including the ability to display subprocess details as a graphic image within the higher-level process model element.

Holocentric's RBPM process models permit nesting of business process areas to any level, with processes containing activities forming the lowest level of a process area. The RBPM approach provides a disciplined technique for associating management responsibilities directly with views of operational scope defined at consistent levels of abstraction.

Due to Holocentric's metamodel management capability, process elements defined in different types of models can be interrelated. For example, RBPM activities can be further decomposed into "sub work-unit" details, including UML Activity and Interaction Diagrams, System Navigation Diagrams, and BPMN processes. The ability to relate people oriented views of process with more detailed technology oriented views of process creates clearly traceable boundaries between these different process management stakeholder views.

**Defining Activities**
Holocentric allows detailed information to be associated with the activities that are performed in the context of processes and process areas.

Various techniques are offered to support this association:

- Linking related items internal or external to the model. This may include documentation (such as work instructions, policies, procedures, training material, etc.), access to supporting systems, web services, reports, etc.
- User defined property groups can be associated with individual activities and classes of activities. By default, all activities hold information relating to resource consumption, activity duration, cost, and capability requirements.
- Activities can be related to data structures, such as business document definitions and supporting system interface definitions, to assist in forms design, data flow, and requirements specifications.

**Documenting Decision Rules**
Decision points in Holocentric business process diagrams are denoted by a flexible combination of rules and decisions on process exchanges. As part of the product's process analysis features, the user can specify alternative combinations of branches on incoming and outgoing exchanges from roles and activities. These alternate combinations can be grouped into named cases, and simulations can be run against them. The user can augment decision rules with more detailed definitions, using rule facets, which are stereotyped UML classes.

**Rules Entry**
Rules can be stored as text within dialog boxes. The content of the rules is implementation specific. Holocentric has developed a prototype for UML 2.0 Action Semantics.

**Activity Costs, Resources, and Time Data**
All of the information relating to activities and roles can be specified at a global model level and optionally overridden for individual diagram instances and, in some cases, user defined scenarios of process execution.

Furthermore, Holocentric enables information associated with activities (and, indeed, any model item) to be reused through specialization (i.e., inheritance) and user defined classification sets, such as geography, industry, and so on.

Performance metrics specified at different levels are then available for process execution simulations, queries, graphs, and interaction with Office productivity tools.
3.3 Simulation

Simulation Capabilities
Holocentric Modeler provides a Discrete Event process analysis capability that allows current processes to be analyzed, improvements simulated, and new processes to be identified.

Through the use of scenario-based process traversal definitions, performance metrics – including activity duration, lag times and volume – are incrementally considered to arrive at complete history graphs of an executed process scenario.

Problem areas can be easily identified – for example, activities that are too expensive, resource-intensive, high risk, or low reliability. Costs of processes, performance throughput, skills, and staffing requirements can all be determined. Metrics can be modified, such as the allocation of additional resources, the diverting of work down different paths, and changes in volumes of work. Improvements can then be tested and fine-tuned.

The simulation capabilities delivered with the product are positioned for pragmatic, practical use by process managers and participants. For more advanced analysis by dedicated simulation professionals, scenario definitions and simulation results can be exported in XML format for use with more specialized simulation engines.

Analytic Capabilities
Holocentric provides scenario definition facilities which enable users to define process execution scenarios and to incorporate and modify metrics associated with roles and activities for analysis. Multiple scenario definitions can be maintained in order to test different routing constraints and metric values.

Scenarios can be visualized within process diagrams to better communicate the activity paths under consideration.

Once scenarios are defined, the Modeler generates a scenario definition and execution history for use by subsequent analysis engines. The scenario definition describes all the processes, activities, and roles considered within the scenario as well as the definition of available execution paths through these elements. The execution history provides a chronological view of execution and the changes to metrics as they evolve over time.

Holocentric provides an Excel model with the tool which allows for comprehensive analysis of the definition and execution history to highlight resource utilization, key constraint areas, and estimated throughput and costing results.

The metrics associated with processes and roles are exported from the models along with the scenario definition and execution history information. These metrics can then be modified in Excel and the processing paths optimized. When the information is pulled back into Holocentric Modeler, the impact across the organization can be determined, and implementation can be planned, with a detailed understanding of how the changes will affect roles and supporting systems. (For more on integration with Excel, see Section 2.4 – Integration with Other Products.)

Real-time Data Utilization
Holocentric Modeler can utilize an ODBC interface to extract information from operational systems, allowing modification of parameters such as average task duration, maximum and minimum times. Information from Activity Based Costing (ABC), as well as other user information, allows costs to be refined.

Model Distribution and Simulation on Enterprise Networks
Holocentric Modeler offers a tiered approach to simulation execution and publication. Simulation definitions and execution histories are generated by the modeling tool for subsequent analysis. Simulation definitions and initial results are therefore easily distributed across an enterprise’s network for further analysis or more widespread publishing of data in a dashboard/management cockpit.
The standard Excel analysis model that is shipped with the product can publish results to a portal such as SharePoint while the Modeler itself can publish scenario specific web site views of the processes and simulation results.

Finally, because path analysis exports via an open XML Schema, Holocentric is capable of interfacing with third-party simulation engines.

**Statistical Fit/Data Analysis**

The Excel simulation model that is shipped with the product assists with the application of Activity Based Costing (ABC), utilizing the metrics defined for activities and resources maintained in the business model.

Simulation results which are imported back into a model can also be evaluated using Holocentric’s Dependency Graph, which can be used in combination with the built-in scripting language to support Six Sigma evaluations of continuous process improvement.

The format of simulation results is suited to further analysis in database or other spreadsheet type statistical tools.

**Capture and Reporting of Simulated Metrics**

Holocentric Modeler provides pre-defined analytic reports and graphs from within the Excel analysis model that ships with the product. Additional reporting is available through the MS Word integration facility used in combination with the Modeler’s native scripting capability.

### 4. Business Process Methodologies

A variety of methodologies are supported to cater for the improvement of business processes. In addition, Holocentric has developed a range of functional solution sets that fast track the deployment of the Modeler within an organization.

**4.1 Business Process Methodologies**

Holocentric supports a range of methodologies that cater to the universal pattern of Discover/Design/Analyze/Engineer/Manage type work cycles for the improvement of processes through the application of resources and the fulfillment of responsible, accountable organizational roles.

Various capabilities are available to assist Model users with the specific application of individual methods:

- **Balanced Scorecard** – Contains templates to help build models that can categorize and report on the evolution of strategies, objectives, perspectives, and measures. Measures which are defined through this process can then be associated with processes and activities to enable scorecard perspectives to be traced to process results.

- **Value Chain** – Derivatives of Porter’s Value Chain methods are supported through the ability to cross-classify processes and the value streams which flow through process execution scenarios.

- **Rummler Brache** – Holocentric’s RBPM business models emphasize the traceability of organizational responsibility and capability against process and activity performance. This feature offers a strong basis for the management of performance at the organizational, process, and job level. A number of Rummler’s performance analysis diagrams are supported in the standard product.

- **Holistic Process Improvement** – Holocentric offers a general methodology for process analysis, decomposition, activity classification, and process improvement. This approach offers a tried and tested method that distills aspects from many of the methodologies popular at various times since the early Nineties.
4.2 Six Sigma Support

Holocentric offers support for Six Sigma, providing templates and guidance for the use of the Modeler in Six Sigma applications. The Modeler offers a range of suggested properties and describes how to apply the general capabilities in the context of the DMAIC cycle.

5. Report Generation and Document Management

Holocentric Modeler provides flexible and fully customizable report generation capability. Reports can be based on a variety of template formats, including XML, HTML, RTF, and plain text. Reporting can be performed either in a stand-alone mode or else with other products, including Microsoft Office.

Standard reports include an HTML website, which is fully cross-referenced and includes text indexing, as shown in Figure 5. Many customers choose to publish the models (or parts of models) as navigable websites, which allow different views of the information, whether from a process perspective or role-based perspective.

Users can also publish models to external products, such as Microsoft SharePoint Portal Server, allowing role-based access to information. This enables employees to access details relating to business processes, roles, information requirements, and IT systems. The report environment is flexible, and a customer’s corporate standard can be used, based upon their own internal guidelines, style guides, look and feel and branding.

6. Development Environment

6.1 Language of Tool

Holocentric Modeler was developed in C#, C++, and Smalltalk.

A variety of design patterns have been employed in design and implementation of the product. They include facades, visitors, commands, MVC, and others. Such patterns help the product to be both maintainable and extensible.

6.2 Product Support, Maintenance, and New Versions

Product maintenance, from a user perspective, is managed by the product license key, the product itself, and Holocentric’s on-line customer database. The Holocentric website allows customers with active maintenance to download and install the most recent product, which can be used with their existing license key. All updates are managed in this way. Downloaded products include a list of all enhancements in current and previous releases.

Holocentric Modeler version 5.0 was released in 2006.

The following additional releases are planned for 2006:

- Enterprise Server Repository – extension to the repository services to enable greater levels of integration with third-party repository products
- BPMS Execution Integration – enhancements to the BPMN/BPEL capability to allow round-trip support for BPEL as well as providing support for non-BPEL APIs
- Support for evolving standards – BPMN, Business Motivation Model (BMM) and Semantics of Business Vocabulary and Business Rules Specification (SBVR) from OMG, BPEL from OASIS and Microsoft’s Domain Specific Languages
7. Software Modeling and Code Generation

Holocentric Modeler supports the generation of code from UML class models. Add-ins are available for a variety of languages including Java, C#, C++, VB, VB.Net, Delphi, Forte/UDS, Gupta/Centura, Advantage Gen, and Python.

Round-trip engineering is also supported, with language-specific code editors for most languages, resulting in a flexible approach to working with source code.

The product also has the ability for users to create their own template-based code generators. These generators can be used in place of the standard ones, where specific formatting and model-driven strategies are employed.

7.1 UML Model Generation

Holocentric Modeler supports the creation of UML models and code generation from UML class models. Similarly, reverse engineered source code is translated into UML models.

7.2 BPEL Generation

The flexible architecture of Holocentric Modeler allows rapid extension to support new languages and output formats. BPEL generation was introduced with V5.0, released in 2006. This feature allows BPMN diagrams to be created and maintained. The BPMN diagrams are then validated to ensure consistency prior to the generation of the BPEL code.
8. Templates and Frameworks

Holocentric Modeler supports a number of techniques and features designed to support the creation and use of generic templates and frameworks.

Abstract Model Level Extensions through MDA
Different model layers (relating to MOF) can be exposed by the Modeler to enable extensions to the standard metamodel. Through this facility, users can incorporate metamodels associated with external templates and frameworks at different levels of abstraction.

Process Element Inheritance
All model elements may utilize multiple inheritance to associate standard template attributes with company-specific models. For example, a company can construct an “As Is” business model and then inherit from SCOR process framework elements to represent the “As Is” view in the context of the Plan/Source/Make/Deliver/Return of SCOR classifications.

Standard Prerequisite Libraries
Models can be built with reference standard content administered in an external model. This ensures that standard reference models remain intact while the elements from these models are free for incorporation into client- and project-specific implementations.

Model Patterns
A universal pattern/template facility allows any model developed in Holocentric Modeler to be used as a model pattern. This approach offers a flexible method for adopting standard framework elements and then subsequently customizing them in ways not anticipated by the original framework.

By leveraging the facilities described above, Holocentric is able to offer a variety of horizontal and industry templates and frameworks licensed from standards organizations and developed by partners with domain expertise – as well as its own, internally-developed frameworks based on its extensive experience with government, service, and wholesale/retail industries – for use with Holocentric Modeler.

Holocentric Enterprise Alignment Reference Model
The Enterprise Alignment Reference Model (EARM) helps organizations to relate the various dimensions of Business Architecture including:

- Governance – Strategy, Compliance and Performance
- Value Chains – Business Competencies, Enterprise Patterns, Inter-enterprise collaboration
- Operations – People, Processes, and Organizational Structure
- Solution Capabilities – Supporting technology capabilities further refined in the Technology Architecture

The EARM offers a set of consistent definitions and modeled relationships between these dimensions to help coordinate the activities of the traditional enterprise management cycle from strategy to goal setting, competency building, and operational excellence.

Holocentric Enterprise Operations Reference Model
A horizontal business model template, the Holocentric Enterprise Management Reference Model covers common business elements for service, financial management, logistics, inventory control, procurement, sales, and order processing.

ITIL Template
The ITIL Template consists of processes and associated elements that support the IT Infrastructure Library IT Service Management.

SCOR Framework
Holocentric provides a SCOR-based framework for associating customer-specific business models against standard SCOR views and benchmark performance measures for members of the Supply Chain Council.

9. Systems Administration and Security

The Holocentric Modeler Team Add-In allows multiple users and multiple teams to work together on a project. It provides capabilities for allocating work among team members, with the ability to lock model items for modification, while providing the consolidation capabilities to easily bring individual changes and additions back into the team model. Users can work independently, while having their work protected for quick consolidation into the common base team library. Team members can see who is working in related areas of the models, thereby allowing issues and conflicts to be identified earlier and resolved sooner.

The Team Add-In also provides administration and control capabilities designed to improve security and integrity over all model items. Users can divide work between team members, specifying who can update at the item level. Model managers can designate whether changes can be made by only the item owner or by any team member. Only the model manager (enforced via a specific user ID) has access to the team-controlled model for defining team members based on network logins.

Team members can create and restore from versions of their working models. Following consolidation of all team changes, the model manager reissues working models to team members.

A version of the team-controlled model can also be created by using a third-party document or configuration management system.

10. Scalability

The Team Add-in allows small to large numbers of users to work side-by-side on the same model, across different networks and across different time zones. Users can build up models using component model parts from prerequisite layers. This allows users to compose an enterprise model from individual models that correspond to distinct business and technical areas, yet, when combined, provide an enterprise view.

The Team Add-in also provides convenient consolidation utilities so that controlled user changes can be quickly and efficiently integrated into a single model.

With the addition of the Enterprise Server, the Modeler will allow individuals to access model information transparently, either locally or over the internet. Enterprise Server will provide a scalable repository interface. The repository can use either Holocentric’s own implementation or use a secondary interface to work with another vendor’s repository.

Holocentric has customers with very large numbers of users, some with hundreds of modelers building process models and defining IT systems. The combination of file-based and service-based repository offers considerable opportunity for users to work in a practical, convenient, and scalable environment.

Holocentric currently supports simulation of complex models. Support for very large models, consisting of multiple interrelated models, will be improved through the introduction of Enterprise Server Repository in Q3 2006. As noted previously (see Section 3.4), it can interface with third-party simulation engines.
11. Platforms

Holocentric Modeler is available for Windows (2000, XP or 2003). Installation of the latest available service packs is recommended. A minimum of 256 MB RAM is recommended. Approximately 50 MB of disk space is required for the complete client installation. A Windows-compatible file server is required for the Team Add-In option.

12. Pricing

List price for Holocentric Modeler is US $2,500. This includes first year annual maintenance and support. Thereafter, annual maintenance and support is US $500. Holocentric offers discount schedules for volume and enterprise licenses. Maintenance and support includes unlimited support and all new updates and releases within the licensed product version.


13.1 Company Background Information

Holocentric is a privately owned company based in Sydney, Australia. Holocentric is a leading provider of business process management and IT products and services. The company has spent the past 10 years in developing tools for business process management. Holocentric’s products and services cover the full lifecycle of enterprise architecture and business process management.


Holocentric has over 2,000 customers worldwide and has licensed in excess of 25,000 users.

13.2 Positioning

Holocentric has positioned Holocentric Modeler to support a broad range of EA modeling and BP change activities, including

- Enterprise architecture modeling and analysis
- Compliance and risk
- Business performance improvement
- Human performance improvement initiatives
- IT support/systems requirements and fulfillment/software re-engineering
- Supply chain management

Holocentric Modeler provides capabilities for defining and modeling all of an organization’s components and their associated relationships, including strategies and goals, organizational structures and functions, people and roles, business processes, and IT requirements.

Holocentric does not believe that products should be ivory-tower solutions, suitable for use by a small number of experts building corporate models. Rather, products need to be usable by end users as well as analysts and architects so that all can contribute, based on their individual understanding and perspective. As a result, the company has made considerable effort via its tailorable user perspective features to ensure that Holocentric Modeler is accessible to both business users and more technically skilled analysts.
Further, Holocentric believes that the communication of information and concepts is critical, and Holocentric Modeler has been designed as an interactive presentation tool. As well as publishing models to an internet or intranet site, it is used to drive workshops for business process improvement. It achieves this by supporting general diagrams to represent different views and by having a flexible publishing model that appeals to a broader audience than the tool users. A tool user can utilize a favored methodology and then change the model to a presentation mode for workshop discussion. This means that effort to convert models into PowerPoint is not required. In addition, the integrity of the models is maintained and changes can be made in situ.

Holocentric also places a great deal of emphasis on the impact change has on people and the roles they perform. A key strength of the product is its ability to model organizations down through roles to people. This makes Holocentric Modeler well suited for supporting human performance improvement initiatives as well as the development of measurement and management systems. Finally, the ability to combine business modeling components with technology modeling components makes the product very useful for supporting IT engineering and software development efforts.

13.3 Product Training

Holocentric offers a number of product training and support services, including:

- Lifecycle and methodology integration
- Training programs, including BPM, Intermediate BPM, Advanced BPM, Systems Requirement and Fulfillment, Lifecycle, Technology Modeling, Library Management, and Consolidation

13.4 Business Process Consulting

Holocentric offers various business process consulting services and workshops, including those focused on:

- Rapid time to benefit and deployment
- Knowledge transfer
- Process improvement, including process path analysis, simulation, and process change
- Product customization services to support development languages, methodologies, frameworks, notations, and interfaces
- Product mentoring
- Team management and library consolidation

14. Case Study

Holocentric Modeler was recently used by a large government agency to enable electronic lodgment of returns. This required the documentation of the business processes, from determination of the requirements for an IT application to support the lodgment process through to the technical design of the systems, applications development, testing, and implementation. The project involved approximately 50 people with roles varying from business analysts, designers, and project managers to application developers. The project utilized an iterative development approach and was based on a development lifecycle that was incorporated into the Holocentric Modeler.

Some of the benefits achieved during the project were:

- Very short installation time and learning curve, through the application of a pragmatic toolset supporting a team environment
- Improved communication between the business people and IT by utilizing a common model and standard documentation set
Holocentric

- Improved communication within the IT department through the incorporation of the development lifecycle within the modeling tool
- Building an infrastructure for future projects, verifying and improving the development lifecycle – from process analysis through user requirements to implementation
- Promoting a culture of re-use – building process models that could be utilized on future projects. Following the successful completion of the project, the tools have been deployed much more widely, and the process models developed in one business area are now shared and re-used in other parts of the organization.

Total project duration was approximately 12 months and was one of the most successful projects ever conducted by this organization. It has since gone on to apply a similar approach on a number of other projects. More than 1,000 staff are trained in the use of the Holocentric Modeler, and the product’s use is ubiquitous in the organization.

Moreover, other companies and government agencies have adopted similar approaches, where they are using one tool set to keep track of business and technology models, linking them so that they can track requirements through to implementation.

15. Company Offices

Holocentric has two offices in Australia, and it sells and supports its products globally through its Head Office in Sydney:

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