

Intelligence

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Knowledge Management RESEARCH PAPER

Art Technology Group ATG Enterprise Portal Suite

Abstract

The ATG Enterprise Portal Suite is a portal framework aimed at strengthening relationships with customers, partners, and employees. Integrating applications, information feeds, Web pages, and other content into one window alleviates problems associated with using a number of disparate systems. These can include aesthetic/corporate identity issues as well as those related to time and resource management. This product offers a high degree of scalability and is based upon proven technology. The ATG Enterprise Portal Suite would be especially beneficial to organisations wishing to consolidate their IT infrastructure and strengthen internal and external relationships through efficient access to relevant data and content. ATG advocates using the metrics and key performance indicator functions that are built into the product, to help measure Return On Investment (ROI).

<p>STRENGTHS</p> <ul style="list-style-type: none"> ● Proven technology background. ● High degree of scalability. ● Scenario-based personalisation allows business processes and tasks to be implemented rapidly. 	<p>WEAKNESSES</p> <ul style="list-style-type: none"> ● Currently only has a limited presence in the portal market. ● Rules-based personalisation requires manual administration.
<p>FUTURE POTENTIAL</p> <p>ATG is positioning its portal offering as an aid to enterprise infrastructure rather than as a departmental product. This, along with the flexibility and scalability offered in the Enterprise Portal Suite, should give it significant traction within the market. However, Butler Group believes that as ATG is new to the portal market, the strengths of the product, as well as its heritage, will need to be effectively communicated to gain significant market penetration.</p>	

► FUNCTIONALITY

Product Analysis

Large organisations have traditionally maintained numerous systems in support of their various internal and external functions, including different packages for interacting with employees, customers, and partners. Many companies also run disparate software programs within each function, for example, the marketing department may use one package for discussion and communication, while the Human Resources (HR) department may use a different one, though for similar functionality. There will also be a number of 'back-end' systems such as Sales Force Automation (SFA), Customer Relationship Management (CRM), as well as Finance and HR packages. A major problem with using these separate systems is that they are heterogeneous in both presentation and functionality. This lack of homogeneity can result in a customer seeing a disorganised corporate identity, and it can also mean that employees have to access these systems individually, rather than through a single, consistent, 'one-window' system.

The ATG Enterprise Portal Suite offers the flexibility to integrate disparate systems and legacy applications, providing a single system for communication between employees within the organisation, as well as to both customers and partners. This product aims to give users a single point of access to all the content and systems that are relevant to the role of the user. Butler Group supports ATG's claim that its Enterprise Portal Suite provides a complete portal solution. ATG also claims that through this product organisations can build more productive and flexible relationships with internal and external users; this will, however, require a high level of buy-in from employees and management. With its rich out-of-the box features and because it is built on top of ATG's Relationship Management Framework (formerly the ATG Dynamo e-Business Platform), this product allows organisations to quickly assemble and deploy customised, flexible Web portals.

Product Operation

The Enterprise Portal Suite is made up of three components:

1. ATG Relationship Management Framework.
2. ATG Portal Server.
3. Example/Demo Portal Applications.

The **ATG Relationship Management Framework** is a J2EE framework that runs on top of J2EE-certified application servers, including the Dynamo Application Server, BEA WebLogic, and IBM WebSphere. This framework provides the platform upon which ATG-based portals are built. This allows the portals to benefit from proven performance and scalability, as well as offering a high degree of flexibility.

The portal utilises many functions available through the platform, such as **Data Anywhere Architecture™** and **Scenario Personalization™**. Scenarios can be represented diagrammatically in a similar way to a flow diagram, where one action or event is triggered by another. Predefined Scenarios can be used, whilst templates allow organisations to build custom Scenarios. For example, a Scenario can be set up to track a user within a sales community. When the user submits a new contract into the portal, the Scenario may alert someone in the legal department to review the contract, and remind them again if the contract has not been reviewed after two days. Scenarios can be used to personalise the elements displayed within a portal and alter available links, therefore influencing the direction of click-through within the portal. This can allow for highly targeted marketing, through the use of user profiling and segmentation.

The major element of the ATG Enterprise Portal Suite is the **ATG Portal Server**, which provides a J2EE infrastructure named the **Portal Application Framework** (PAF), made up of a number of separate but related elements. Through the PAF, users, administrators, and developers can:

- Create 'gears' which allow common off-the-shelf applications to be integrated into the portal.
- Deploy and administer the gears within work areas for organisations and user groups, which ATG terms 'communities'.
- Administer portal security on a granular basis to determine access to communities, gears, and gear functionality.

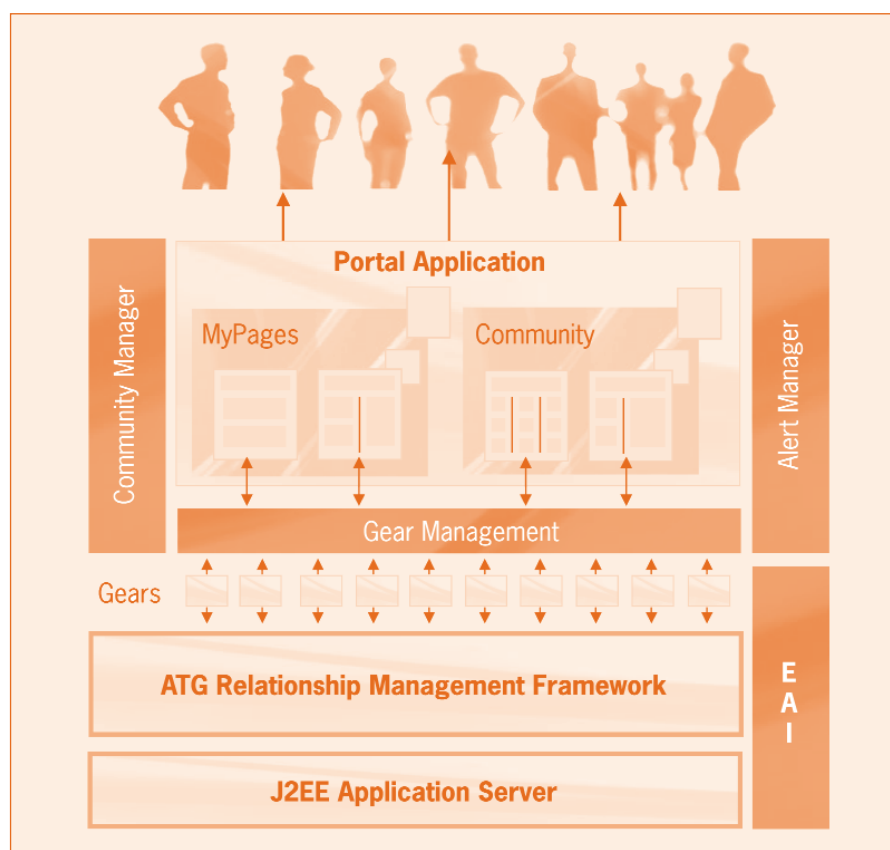
Other features of the PAF include:

- Adaptable caching of gear content, thus improving performance.
- Asynchronous execution of gears through the use of a Thread Pool, which maximises page-rendering speed.
- The logging of user activity to allow for monitoring and analysis.
- User customisation and creation of portal pages, according to authorities attributed to the user by the community leader.
- Delivery of portal components through multiple types of device.

The PAF is made up of the following elements:

- Community Management.
- Alert Management.
- Gear Management.
- ATG Foundation Gears.

The following diagram represents the high-level architecture of the ATG Enterprise Portal Suite.



The **Community Management** element includes built-in tools for the creation and management of portal communities. These communities can be based on the whole organisation or around business function or projects, etc. The Community Management function allows for dedicated community workspaces; these facilitate content sharing, group collaboration, and communication. Access control to communities is flexible and allows for universal access by the whole organisation, by members only, or on a role basis. Membership to communities is controlled by the community leader or by the portal administrator. This control follows one of three models:

- **Automated Membership:** This model allows users who request to be members of the community to automatically be made members.
- **Request and Approval:** Using this model allows users to request to be members of the community and suspends membership, awaiting approval by the community leader.
- **Closed Communities:** This allows a community to be set up with only specific individuals and not accommodating membership requests.

The Community Management feature also allows control over the options a user has to customise the pages within a community. This includes whether to allow a user to create or customise pages, as well as the basics such as colour and layout. Through the use of communities and the appointment of community leaders, management and administration of the community are delegated to its leader, thus alleviating some of the work that in other systems would be left to the centralised IT department.

Related to community management is the allocation of user roles within the portal. Role setting can be either individual or through association to an organisation. For example, all members of a particular organisation would have the same access and personalisation rights. Predefined portal roles are as follows: Portal Administrator, Community Leader, Community Member, and Community Guest. Through role settings, access to communities, pages, gears, and gear content can be controlled.

The **Alert Management** element allows the PAF and gears to be configured to send Java Message Service (JMS) messages, which are received by the Scenario server for notification to users/leaders/administrators, or to effect a relationship management activity. These activities are brought about by the use of Scenarios and can include functions such as displaying a pop-up window. The alert management function can also interact with third-party messaging software, such as 'MessageMachines', which can transmit alerts through a number of channels, such as instant messaging, wireless, etc. The alerts can be triggered from portal events, such as a user clicking a particular link, and accepted into a Scenario, thus enabling the capture of audit trails, allowing usage analysis.

Applications are integrated through what ATG terms 'gears', and these are managed through the **Gear Management** element of the PAF. The Gear Management function allows new gears to be introduced, configured, and managed. This includes security, display, alerting, and internal functionality of the gear. Management and administration can be done on a portal-wide, community-wide, or individual basis. A number of ATG Foundation Gears are included with the ATG Enterprise Portal Suite, and can be defined as either application gears or system gears, as follows:

- **System gears:**
 - Login/Out: Allows users to register for portal membership and log in or out. The portal administrator configures this gear.
 - Communities: User-configured list of favourite communities.
 - Community Members: Lists community members.

- **Application gears:**

- Bookmarks and Quicklinks: User/community bookmarks.
- Discussion Board: Allows threaded discussions.
- DocExchange: Publishing and management of documents.
- XML Feed: Captures and directs syndicated content from external sources.
- Alerts and Announcements: Display of alerts and notices from other users within the community.
- Polls: Polling of questions, collection of responses and results.
- Calendar Publisher: Lists important portal events.
- Outlook: Allows Microsoft Outlook to be launched from the portal.
- Web Services: Web services client – allows Simple Object Access Protocol (SOAP)-based Web services integration with the portal.
- HTML Content Gear: Allows the display of Web sites through the portal.

The PAF allows detailed reporting of Web site and visitor data, through the use of metrics and reporting templates, which can be automatically or manually created. The charts and graphs produced from this data can be used to support the refining of content contained within the portal.

The ATG Enterprise Portal Suite has the following security features:

- Anonymous and authenticated users.
- Auto-login (through cookies).
- Encrypted query parameters.
- Operation in HTTP or HTTPS (HyperText Transfer Protocol over Secure Socket Layer).

Support for parametric searches is provided through the PAF, and there are also extensions to support third-party search tools. A number of search form handlers can be configured to allow the following search methods:

- Keyword searches.
- Full text searches.
- Advanced (parametric) searches.
- Combination searches.

Support is also provided for hierarchical searches; this type of search looks in a subset of items, starting from a given item level and extending down through to that item's children, then the children of those children, etc.

Product Emphasis

ATG's focus with the Enterprise Portal Suite is to provide a portal solution that is capable of being implemented enterprise-wide, to external and internal users. The scalability and reliability of ATG's Relationship Management Framework have already been proven within ATG's successful e-commerce products. Butler Group believes that this product offers a high level of personalisation and flexibility, and that it leverages scalable, robust technology.

► DEPLOYMENT

The ATG Relationship Management Framework is a J2EE-certified application server and allows the Enterprise Portal Suite to run on Solaris, AIX, HP-UX, Microsoft Windows, and Linux systems. The framework also provides a high degree of scalability. The architecture typically supports between 700 and 1,000 concurrent users per CPU, and linear scalability can be achieved through adding new servers, or new CPUs into the existing servers.

Fault tolerance is achieved through Session Backup, so that if a server goes down, another instance is able to load the backed-up session without significantly affecting the user experience. ATG also recommends deployment architectures where there is no single point of failure. Through the ATG Control Centre, there are tools for monitoring server load via Simple Network Management Protocol (SNMP).

Implementation of the ATG Enterprise Portal Suite is usually through a System Integrator (SI), and can take between four weeks and twelve months. The typical time for implementation is between six and twelve weeks, plus one to two days of tuning. Monitoring and fine-tuning of the system can be an ongoing process, especially concerning the use of Scenarios. ATG can also provide consultancy through its Expert Services division to guide implementation. The product can be deployed using a modular approach, by size of implementation (i.e. by department), or by adding ATG product components. A system support and maintenance contract can be supplied by ATG, offering a guaranteed Service Level Agreement (SLA).

The ATG Enterprise Portal Suite contains three example applications:

- A Business-to-Consumer (B2C) portal.
- A Business-to-Employee (B2E) portal.
- A Business-to-Business (B2B) partner portal.

These examples are ready to run and offer out-of-the-box functionality, though most implementations will require a hybrid approach, through extending the examples with additional components. ATG offers a basic rule of thumb of an 80:20 split between out-of-the-box and assemble with ATG products.

There are technical skill-sets needed to deploy and maintain this product which include knowledge of Java and eXtensible Markup Language (XML). Depending on the type and scale of implementation, they may also include knowledge of operating systems, relational databases, Lightweight Directory Access Protocol (LDAP) directories, and content management systems. ATG offers a range of training courses, from organisation-wide training delivered over the Internet to individual classroom-based training. Training courses are role-based and can be tailored to the needs of marketing professionals, developers, system administrators, or end-users.

Portal administrators are provided with tools enabling them to update and maintain portal components, such as templates, colour palettes, and gears, as well as to assign community leader status to community members using HTML-based interfaces. Management and administration of the system are carried out through the **ATG Control Centre**, which is a stand-alone Java application, and connects to the ATG Portal Server through a Transmission Control Protocol/Internet Protocol (TCP/IP) network.

This product can interact with a number of databases, including:

- Oracle
- Microsoft SQL Server
- IBM DB2

Connection to these is made through Java DataBase Connectivity 2.0 (JDBC). Additionally, the system can also be integrated to a content management system and/or a third-party search engine, through an application program interface (API) or ATG's Dynamo Application Integrator (DAI). DAI is an optional element which can be added to the system and is usually only required where there are a number of heavyweight transaction-based integrations into back-end systems.

The ATG Enterprise Portal offers a high degree of flexibility and supports the following:

Protocols/Specifications:

- | | | |
|------------|--------|-----------|
| ● RMI/IIOP | ● JDBC | ● WAP |
| ● HTTP | ● SSL | ● TCP/UDP |
| ● SOAP | ● JMS | |

Presentation Methods:

- JSP
- HTML
- JHTML
- XHTML
- HDML
- CHTML (iMode)
- XML
- WML

► PRODUCT STRATEGY

The ATG Enterprise Portal Suite is an enterprise-level product, though it is accessible on a departmental level as well as to small and medium enterprises. ATG is targeting financial services, retail/Consumer Packaged Goods (CPG), telecoms companies, manufacturing, media, and the government sector. The product is licensed directly to third parties and is also sold on a co-selling basis through business partners. The product is currently release 5.6, and ATG typically releases one major version of the software each year, though patches and updates are released as required. Updates to the system, as well as new gears, are driven by market demand; if there is a demand for a new gear and this is supported by being a marketable commodity, then ATG will develop a new gear. Where there is no wider business reason for developing the new gear, this can be done specifically for/by the customer, and not taken on as a marketable gear. ATG has positioned its Enterprise Portal Suite to take market share from the pure-play vendors and believes that it has the flexibility, scalability, and reliability to continue gaining traction within the market. However, Butler Group believes that, although ATG has gained early traction within the highly competitive portal market, it has some significant ground to make up.

ATG has many partners within its Gear Alliance Network, and a certification programme is being planned for the gear providers. Key gear alliance partners include:

- AltaVista Search Software
- Documentum
- Factiva
- Interwoven
- McFadyen Consulting
- MessageMachines
- PricewaterhouseCoopers
- Verity

► COMPANY PROFILE

ATG (Art Technology Group, Inc.; NASDAQ: ARTG) has been supplying platforms and applications aimed at supporting e-business, through e-commerce, relationship management, and portals, for over ten years. The company is headquartered in Cambridge, Massachusetts (US), with offices located throughout North America, Europe, Asia, and Australia. ATG has over 800 customers worldwide, and works with its Global Alliance Network (over 250 partner companies) to help organisations gain the most from their on-line business projects. ATG has over 600 employees, with 140 based in Europe. The majority of research and development is done in the US, with sales and marketing functions spread through offices worldwide.

The company's total revenue for 2001 was US\$138.9 million, which represented a decrease of 15% from US\$168.3 in 2000. The company also cut its workforce by approximately 50% in 2001 and made a net loss before restructuring costs, taxes, and interest of US\$60.2 million. ATG anticipates total revenues of between US\$130 million and US\$140 million for 2002, with a return to profitability in the second half of the year.

Key customers for the ATG Enterprise Portal Suite include:

- Philips
- France Telecom
- BestBuy
- Consignia
- Hewlett-Packard
- Deutsche Post
- Accenture
- Pacific Gas & Electric

► SUMMARY

The Enterprise Portal Suite from ATG offers a high level of flexibility, functionality, and scalability, all based on proven, robust technology. Butler Group believes that, although this portal offering is relatively new to the market, it should still be able to gain significant traction. It is Butler Group's opinion that the purchase of a portal product represents one of the most important strategic IT projects currently being undertaken by organisations, and ATG's offering should stand up well to competitor products.

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