IBM VisualAge Smalltalk Enterprise, Version 5.0

Overview

With VisualAge® Smalltalk, an IBM application development tool, you benefit from the power of a pure object-oriented environment with the ease of visual programming. Software developers can create business applications that are highly portable, scalable, and multi-tier.

VisualAge Smalltalk tools can perform application modeling and development while supplying a robust persistence framework.

Integrate existing systems, including Legacy C, COBOL, DB2®/UDB, MQ™, CICS®, IMS™, and Tivoli. Also develop e-business applications, including:

- Ultra Light Client (ULC) function of the Server Workbench feature
- Additional WebSphere Application Server support
- Extending the persistence framework to the server environment
- Enhanced Java™ interoperability tools

With Smalltalk-based Web applications, global enterprises can construct line-of-business applications that easily fit within existing IT infrastructures.


For more information about VisualAge Smalltalk, visit our Web site at:

http://www.software.ibm.com/ad/smalltalk

Key Prerequisites

- Pentium™ 66 MHz (or equivalent) processor with 32 MB of RAM
- 1 GB hard disk
- One of the following environments:
  - OS/2®
  - Windows™ 95/98
  - Windows NT®
  - AIX®
  - HP-UX
  - Sun Solaris

Planned Availability Date

July 30, 1999

At a Glance

e-business Enhancements

- Java interoperability
  - Ultra Light Client (ULC)
  - Improved tools for enabling RMI through SST
  - XMI export/import of UML Designer models
- WebSphere integration
  - Servlets to Smalltalk Servers
  - Web Connection support for WebSphere Application Server, Standard Edition
  - Support for calling to Smalltalk applications from Java Server Page (JSP) components or Enterprise JavaBean (EJB) components

Server Extensions

- ObjectExtender enabled for server environments
- Server enabled on Solaris
- Domino™ connection for Windows NT and OS/2

Customer Requirements

- New migration tool
- Documentation enhancements
- Performance enhancements
- Usability enhancements in the integrated development environment (IDE)

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**Description**

**e-business Enhancements**

**Java Interoperability**

*Ultra Light Client (ULC):* ULC extends the Smalltalk Server Workbench Feature to let you create Smalltalk server applications with small, rich-function, Java-based user interfaces. A thin Java client uses a highly optimized low-bandwidth connection framework to communicate with server applications written in VisualAge Smalltalk. Using Java Swing technology, ULC can build robust interfaces while obtaining the benefits of low-bandwidth, “thin-pipe” client connections. ULC performs well on all modem lines at speeds as low as 28.8K baud.

**Improved Tools for Enabling RMI Through SST:** Server Smalltalk (SST) is a distributed object-oriented framework that develops client-server applications. SST supports distributed object-oriented messaging on TCP/IP, HTTP, SMTP, and IMAP4. Further, SST permits distributed Smalltalk messaging and Smalltalk interoperability with Java RMI and IIOP.

SST supports a wide variety of distributed architectures through its:

- Communications protocols (for example, HTTP, TCP, SMTP, IMAP4)
- Message contents (for example, custom builds, Smalltalk objects, remote references, IIOP, Serialized objects)
- Message processing strategies (for example, serialized, thread pools, thread-per-request, distributed logical processes)
- Concurrency control

**XMI Export/Import of UML Designer Models:** UML Designer now supports the XMI standard for moving XMI model data into, or out of, VisualAge Smalltalk from another product.

**WebSphere Integration**

- Servlets to Smalltalk Servers
  VisualAge Smalltalk, V5.0 Web Connection now adds support for servlets. This includes cookie support and allows the embedding of Smalltalk Web parts using the servlet tag.
- Supporting WebSphere Application Server, Standard Edition
  VisualAge Smalltalk, V5.0 Web Connection supports the WebSphere Application Server, Standard Edition.
- Java Server Page components and Enterprise JavaBean components
  You can communicate with Smalltalk applications from JSP or EJB components (session beans) using VisualAge Smalltalk Server Workbench, V5.0.

**Server Extensions**

- ObjectExtender enabled for server environments
  The VisualAge Smalltalk, V5.0 ObjectExtender feature works on all supported Smalltalk servers.

- Server enabled on Solaris
  VisualAge Smalltalk Server now works on a Sun Solaris system.

- Domino connection for Windows NT and OS/2
  The Domino Connection feature, formerly known as Connection for Lotus Notes™, runs in the server environment for Windows NT and OS/2.

**Customer Requirements**

- New migration tool
  VisualAge Smalltalk V5 now has a manager library migration utility to assist in the migration of current Smalltalk applications from prior VisualAge versions to Version 5.0.
- Documentation enhancements
  The documentation has been HTTP-enabled so it can now be viewed in a browser environment.
- Performance enhancements
  ObjectExtender offers significantly improved performance through the use of a high capacity dictionary.
- Usability enhancements
  VisualAge Smalltalk Application Builder has improved Part Selection, Property Sheets and Container Views.

**Additional Smalltalk Components**

**VisualAge Smalltalk Server Workbench, V5.0:** Develop and test on Windows NT, AIX, Sun Solaris, and OS/2 with complete benefits on IDE, including version control and configuration management. ULC is included.

Smalltalk Server Workbench offers a cost-effective and convenient way to develop applications that access the information and transactions your users need—whether via the Web or intranet.

**VisualAge Smalltalk Server, Version 5.0:** A standards-based distributed object infrastructure and middleware in Version 5.0 provides homogeneous Smalltalk messaging, Smalltalk servlet infrastructure, and support for CICS and IMS transactions written in Smalltalk.

Server applications developed using VisualAge Smalltalk can participate in e-business environments and interoperate with Java systems using RMI, and with other systems through IIOP.

**VisualAge Smalltalk ObjectExtender, Version 5.0:** A powerful persistence framework enables you to map objects to relational databases with sophisticated inheritance support. It also provides linkages to legacy data on a number of systems, plus a high-performance runtime for superior performance. Version 5.0 extends the capabilities of ObjectExtender to the supported Server platforms:

- AIX
- Sun Solaris
- Windows NT
- OS/2
**VisualAge Smalltalk UML Designer, Version 5.0:** Define requirements, document use cases, create and print object model diagrams as well as generating and reimplementing code with VisualAge Smalltalk UML Designer. UML Designer can generate documentation of your model in HTML or RTF format, and can build specifications and models. You can build, test, and debug your applications within a single environment that includes version control. UML Designer, V5.0 adds support for importing and exporting analysis and design models to other tools using the XMI standard. It also can generate Java source code and Smalltalk source code, and supports many of the popular UML specification types.

**Object Technology International (OTI), ENVY/QA**: ENVY/QA now supports VisualAge Smalltalk Enterprise, V5.0. ENVY/QA provides a complete system of quality assurance tools for Smalltalk development teams. OTI’s ENVY/QA package supplies comprehensive quality management tools to improve software quality and maintain corporate standards. Tools included are:

- Code Metrics
- Code Critic
- Code Coverage
- Code Publisher
- Code Formatter

All of these tools can be integrated into the VisualAge Smalltalk Enterprise, V5.0 environment.

An evaluation copy of ENVY/QA is included with VisualAge Smalltalk Enterprise, V5.0

For additional information, refer to the OTI Web page at:  
http://www.oti.com

**Year 2000**

This product is Year 2000 ready. When used in accordance with its associated documentation, it is capable of correctly processing, providing, and/or receiving date data within and between the twentieth and twenty-first centuries, provided that all products (for example, hardware, software, and firmware) used with the product properly exchange accurate date data with it.

The service end date for this Year-2000-ready product is January 31, 2001.

**Euro Currency**

This program is EuroReady.

For more information on the implications of the euro, visit the IBM euro Web site at:  
http://www.ibm.com/euro

**EuroReady Products:** IBM considers an IBM product to be EuroReady if the product, when used in accordance with its associated documentation, is capable of correctly processing monetary data in the euro denomination and of respecting the euro currency formatting conventions (including the euro sign). This assumes that all other products (that is, hardware, software, firmware etc.) that are used with this product are also EuroReady. IBM hardware products that are EuroReady may or may not have an engraved euro sign key on their keyboards.

Currently, EuroReady status applies primarily to IBM products specific to the EMU countries. Products that are not specific to these countries are deemed to be “not ready” for euro unless otherwise stated in the product’s country-specific specifications.

**IBM Hardware Ready:** IBM supplies certain IBM products which include third-party software (preloaded or not) and/or third-party attached hardware. In these instances IBM is not in a position to assert that these third-party products are, in themselves, EuroReady. Therefore such IBM products will be designated as Hardware Ready.

**EuroReady Solutions:** IBM considers a solution to be EuroReady when the solution providers have:

- Analysed the euro requirements, including the need to comply with relevant EC rules
- Built-in appropriate function

Solution providers also should clearly demonstrate this by:

- Detailing euro related requirements
- Describing how these will be implemented in the solution
- Declaring when the implementation will be generally available

The euro capabilities of a EuroReady solution will be clearly identified as features of the Solution specification as described in the contracts document.

**Product Positioning**

VisualAge Smalltalk Enterprise, V5.0 continues the IBM commitment to:

- The Smalltalk language with Java interoperability
- CICS Servers on Windows NT, AIX, and Solaris
- WebSphere Application Server support
- A persistence framework and tools
- An integrated modeling tool that generates both Smalltalk and Java

Smalltalk is positioned as a powerful server environment for e-business applications with integrated life cycle support.

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Java is a trademark of Sun Microsystems, Inc.

Domino and Notes are trademarks of Lotus Development Corporation.

Lotus is a registered trademark of Lotus Development Corporation.

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**Education Support**

Contact the VisualAge® Solutions Group at 919-254-1116 for information on educational and consulting services.

Smalltalk education is available from the Object People Web site at:


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**Publications**

*VisualAge Smalltalk Getting Started* (GC34-4776) is shipped with this program.

The following publications can be ordered after July 30, 1999:

<table>
<thead>
<tr>
<th>Title</th>
<th>Order Number</th>
</tr>
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<tbody>
<tr>
<td>VisualAge Smalltalk Getting Started</td>
<td>GC34-4776</td>
</tr>
<tr>
<td>VisualAge Smalltalk User’s Guide</td>
<td>SC34-4772</td>
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<tr>
<td>VisualAge Smalltalk Server Guide</td>
<td>SC34-4775</td>
</tr>
<tr>
<td>Smalltalk User’s Guide</td>
<td>SC34-4773</td>
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<tr>
<td>Smalltalk Programmer’s Reference</td>
<td>SC34-4774</td>
</tr>
<tr>
<td>Bill of Forms for all above</td>
<td>SBOF-8568</td>
</tr>
</tbody>
</table>

To order, contact your IBM representative or call 800-879-2755.

Publications can also be ordered over the Web at:


The following publications are provided in HTML format on the base program product media:

- VisualAge Smalltalk Getting Started
- VisualAge Smalltalk User’s Guide
- VisualAge Smalltalk Server Guide
- Smalltalk User’s Guide
- Smalltalk Programmer’s Reference
- VisualAge Smalltalk Installation Guide
- VisualAge Smalltalk User’s Reference
- VisualAge Smalltalk Ultra Light Client Guide and Reference
- VisualAge Smalltalk Database Guide
- VisualAge Smalltalk Migration Guide
- VisualAge Smalltalk UML Designer User’s Guide
- VisualAge Smalltalk ObjectExtender User’s Guide and Reference
- VisualAge Smalltalk Web Connection User’s Guide

**Displayable Softcopy Publications:** VisualAge Smalltalk Enterprise, V5.0 publications are provided in displayable HTML format, with all unlicensed manuals included. The displayable manuals are part of the basic machine-readable material, and are shipped on the product CD-ROM.

For the latest documents, including translations, see the VisualAge Smalltalk Web site at:

http://www.software.ibm.com/ad/smalltalk

Terms and conditions for use of the machine-readable files are shipped with the files.

**Open Blueprint®:** VisualAge Smalltalk Enterprise, V5.0 allows you to transport information over WANs and LANs. Its implementation is consistent with the Transport Services function described in IBM’s Open Blueprint.


The Open Blueprint supports both procedural and object-oriented applications. VisualAge Smalltalk Enterprise, V5.0 and its associated products implement Open Blueprint capabilities in support of object-oriented applications.

VisualAge Smalltalk Enterprise, V5.0 applications exploit Open Blueprint services in a variety of ways. Application business logic supported by VisualAge Smalltalk can be transactional. For these applications, VisualAge Smalltalk ObjectExtender offers classes that work with the Open Blueprint Transaction Monitor and Transaction Manager resource managers. Other Open Blueprint resource management services with procedural APIs, such as HTTP, are supported by corresponding VisualAge Smalltalk classes.

VisualAge Smalltalk Enterprise, V5.0 classes abstract the usage of Open Blueprint services such as Relational Database and File, "connecting" to these services. In this case, the VisualAge Smalltalk Enterprise, V5.0 application need deal only with object instances. You can access and save the state values in these persistent object instances to the application as the objects are referenced and dereferenced. This constitutes an implementation of the Open Blueprint Persistence resource manager.

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VisualAge Smalltalk Server also works with Open Blueprint Object Management Services, including the Object Request Broker, as implemented in products that provide IIOP and CORBA 2 support.

### Technical Information

#### Specified Operating Environment

**Hardware Requirements**

**Visual Smalltalk Enterprise, Version 5.0 for Intel Platforms**

- Personal Computer with 90 MHz Intel Pentium™ (or equivalent) microprocessor
- CD-ROM reader
- 64 MB installed RAM
- 32 MB installed RAM required for runtime
- XGA or SVGA display with a minimum resolution of 1024 x 768 pels
- Mouse or other pointing device
- Client disk space
  - Base: 115 MB hard disk space
  - Multimedia samples: 8 MB
  - OS/2® swapper (required for OS/2)
- Manager Library disk space: 130 MB (with additional disk space for growth)
- Standalone disk space: 245 MB (with additional disk space for growth)

**VisualAge Smalltalk Enterprise, Version 5.0 for UNIX® Platforms**

One of the following platforms is required, with the minimum hardware requirements listed below:

- For AIX®: RS/6000™ POWERStation or POWERserver® running AIX Version 4.2.1 (either product number 5765-655 or 5765-C34), or AIX Version 4.3 (either product number 5765-655 or 5764-C34)
- For HP-UX: Hewlett Packard PA RISC workstation or server
- For Solaris: SUN SPARC workstation or server
- CD-ROM reader
- 64 MB installed RAM
- Client disk space: 55 MB hard disk space
- Manager Library disk space: 130 MB (with additional disk space for growth)
- 200 MB free disk space for paging space
- Color display supporting X-Window System Version 11 Release 5 and OSF/Motif Version 1.2
- Mouse or other pointing device

**Software Requirements**

**VisualAge Smalltalk Enterprise, V5.0 Supported Operating Systems for Development and non-Server Runtime**

**OS/2**

- OS/2 Warp Version 4.0
- For local IBM database support, one of each from the following:
  - DB2®/2 Version 2.1 for remote
  - IBM database support only or DB2 Universal Database® Version 5.0, or later, for OS/2
  - Client Application Enabler/2 (CAE/2) Version 2.1 or DB2 CAE OS/2 2.1.2 (required for extended fetch function)
- For ORACLE support, ORACLE Version 7.3, or later
- For multimedia support, any digital audio adapters, CD devices, or video disc devices supported by Multimedia Presentation Manager/2™, provided with OS/2 Warp Version 4.0, or later

**Windows™**

- Windows 95
- Windows 98
- Windows NT® Workstation Version 4.0
- Windows NT Server Version 4.0
- For multimedia support, any digital audio adapters, CD devices or video disc devices supported by Microsoft™ Windows 95, Windows 98, Windows NT Workstation Version 4.0, or later
- For IBM database support:
  - Local: DB2 Version 2.1 (Windows NT only) or DB2 Universal Database Version 5.0, or later
  - Client: DB2 Client Application Enabler for DOS, Version 1.2 (Windows 3.11 only, Static SQL not supported) DB2 Software Developer’s Kit for DB2 2.1 (required for Static SQL Precompiles on Windows 3.11 only) DB2 CAE for Windows 3.1, Windows 95, and Windows NT V2.1 DB2 Client Application Enabler for Windows 3.1, Windows 95, and Windows NT 2.1.2 (required for extended fetch function)

**EMSsrv Requirements**

The EMSRV library manager can run on the following platforms:

- Netware 4.1, 4.11, 5.0
- IntraNetware 4.11
- OS/2 Warp 4.0
- Windows NT Workstation Version 4.0
- Windows NT Server Version 4.0
- Sun Solaris Version 2.6
- HP-UX Version 10.20
- AIX Version 4.2.1, or later

**Domino Connection Component**


Lotus Notes® 4.1, or later, is required.
**Web Connection Component:** Web Connection runs on OS/2 Version 4.0, Windows 95, Windows NT Version 4.0, AIX Versions 4.2.1 and 4.3, HP-UX Versions 10.10, 10.20, and 11, and Solaris Versions 2.5.1 and 2.6 with the following prerequisites:

- VisualAge for Smalltalk, Enterprise Version 5.0
- Hard disk space
  - 2 MB on client workstation
  - 5 MB on the file server
- TCP/IP must be installed on the operating system
- Web server supporting HTTP 1.0 and CGI 1.1
- For NSAPI: Netscape Servers V3.51, or later
- For ICAP: IBM Internet Connection Server V4.2, or later
- For ISAPI:
  - Windows NT 4.0: Microsoft Internet Information Server V3.0
  - Windows 95: Microsoft Personal Web Server V1.0a
- For servlet interface: HTTP server that supports servlets
  - On Windows NT 4.0, AIX, and Solaris: WebSphere Application Server V2.0 (Standard or Advanced)
  - On HP and OS/2: JSDK 2.1
  - On OS/390: WebSphere Application Server for OS/390 Version 1.1 (requires OS/390 2.5)
- Web browser supporting HTML 2.0

**Communications/Transaction Component:** The Communications/Transactions component of IBM VisualAge Smalltalk Enterprise, Version 5.0 runs on the same operating system platforms as the base product. The following table lists supported protocols implemented by each supported platform:

<table>
<thead>
<tr>
<th>Protocol</th>
<th>Prerequisite Software</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>OS/2 4.0 Platform</strong></td>
<td></td>
</tr>
<tr>
<td>TCP/IP</td>
<td>TCP/IP V3.0 for OS/2</td>
</tr>
<tr>
<td>CICS® ECI</td>
<td>CICS Client for OS/2 Version 2.00</td>
</tr>
<tr>
<td>MQSeries Client and Server</td>
<td>MQSeries® Version 5.0</td>
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<tr>
<td>APPC</td>
<td>Communications Server for OS/2 Warp V4</td>
</tr>
<tr>
<td>EHL-LAPI</td>
<td>Personal Communications AS/400® and 3270 V4.1</td>
</tr>
<tr>
<td>CPIC</td>
<td>Communications Server for OS/2 Warp V4</td>
</tr>
<tr>
<td>RPC</td>
<td>TCP/IP V3.0 for OS/2</td>
</tr>
<tr>
<td><strong>Windows 95/98 Platform</strong></td>
<td></td>
</tr>
<tr>
<td>TCP/IP</td>
<td>Microsoft TCP Stack (available with Windows 95 Operating System)</td>
</tr>
<tr>
<td>CICS ECI</td>
<td>CICS Client for Windows 95 Version 2.00</td>
</tr>
<tr>
<td>MQSeries Server</td>
<td>MQSeries for Windows Version 5.0</td>
</tr>
<tr>
<td><strong>Prerequisite Software</strong></td>
<td></td>
</tr>
<tr>
<td>APPC</td>
<td>Personal Communications AS/400 and 3270 V4.1 or Attachmate Extra! Personal Client V6.2</td>
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<tr>
<td>EHL-LAPI</td>
<td>Personal Communications AS/400 and 3270 V4.1 or Attachmate Extra! Personal Client V6.2</td>
</tr>
<tr>
<td>CPIC</td>
<td>Personal Communications AS/400 and 3270 V4.1 or Attachmate Extra! Personal Client V6.2</td>
</tr>
<tr>
<td>RPC</td>
<td>NetManage Chameleon NSF V5.0 for Windows NT</td>
</tr>
<tr>
<td><strong>HP-UX Platform</strong></td>
<td></td>
</tr>
<tr>
<td>TCP/IP</td>
<td>No additional software required</td>
</tr>
<tr>
<td><strong>Solaris Platform</strong></td>
<td></td>
</tr>
<tr>
<td>TCP/IP</td>
<td>No additional software required</td>
</tr>
<tr>
<td>MQSeries</td>
<td>MQSeries Version 5.0</td>
</tr>
</tbody>
</table>

**ObjectExtender Feature**

The ObjectExtender feature of VisualAge Smalltalk Enterprise, Version 5.0 runs on the same operating system platforms as the base product.

ObjectExtender requires the same database requirements as the Database component (that is, DB/2 V2.1 on Windows, DB2 Universal Database V5.2 on AIX). Refer to the database requirements listed with the base platform requirements.
UML Designer Feature


Server Workbench Feature

The Server Workbench feature of VisualAge Smalltalk Enterprise, Version 5.0 runs on the platforms indicated below with the specified prerequisites:

OS/2 Warp 4.0
- To use CPIC interactive debug, IBM Communications Server for OS/2 Warp V4
- To use TCP/IP interactive debug, the TCP/IP stack shipped with the system
- To test your CICS application, CICS for OS/2 V3.0 which ships as part of IBM Transaction Server for OS/2 Warp, Version 4, or later (also shipped with VisualAge Smalltalk Enterprise, Version 4.5)
- To test your IMS℠ application, Micro Focus Workbench with the 32-Bit IMS Option (EBCDIC version).
- To simulate VSAM data sets for testing, Btrieve 6.15 SDK (if you have CICS for OS/2 installed, you have Btrieve)

Windows 95/98
- To use CPIC interactive debug, IBM Personal Communication V4.1 or Attachmate Extra! Personal Client V6.2
- To use TCP/IP interactive debug, the TCP/IP stack shipped with the system
- To test your IMS application, Micro Focus IMS Option V3.1 (EBCDIC) for Windows NT and Windows 95
- To simulate VSAM data sets for testing, Btrieve v6.15 Developer Kit Upgrade for Windows NT/Windows 95

Windows NT 4.0
- To use CPIC interactive debug, IBM Personal Communication V4.1 or Attachmate Extra! Personal Client V6.2
- To use TCP/IP interactive debug, the TCP/IP stack shipped with the system
- To test your CICS application, VisualAge CICS Enterprise Application Development Version 3.1 (shipped with VisualAge Smalltalk Enterprise, Version 4.5)
- To test your IMS application on Windows NT, Micro Focus IMS Option V3.1 (EBCDIC) for Windows NT and Windows 95
- To simulate VSAM data sets for testing, Btrieve v6.15 Developer Kit Upgrade for Windows NT/Windows 95

AIX 4.2.1, or 4.3
- To use TCP/IP interactive debug, the TCP/IP stack shipped with the system

Solaris Version 2.5.1 or 2.6
- To use TCP/IP interactive debug, the TCP/IP stack shipped with the system
- To use DB2 for OS/2 databases, DB2 for OS/2 1.2, or later

• To use embedded SQL statements, DB2 for OS/2 2.1, or later
• To use DB2 for NT databases:
  - Local: DB2 Version 2.1 (Windows NT only)
  - Client: DB2 CAE for Windows 3.1, Windows 95, and Windows NT V2.1
• To use MQSeries classes on OS/2, MQSeries 5.0
• To use MQSeries classes on Windows NT, MQSeries for Windows NT Version 5.0

Supported Operating Systems for Server Runtime

Windows
- Microsoft Windows NT Workstation V4.0 or Microsoft Windows NT Server V4.0
- CICS for Windows NT, Version 4, which ships as part of IBM Transaction Server for Windows NT, Version 4 or later, or TXSeries™ for Windows NT V4.2
- To use DB2 for NT databases:
  - Local: DB2 Version 2.1 (Windows NT only), or DB2 Universal Database V5.0, or later
  - Client: DB2 Client Application Enabler for Windows 3.1, Windows 95, and Windows NT V2.1
- MQSeries for Windows NT Version 5.0

OS/2
- OS/2 Warp Version 4.0 or OS/2 Warp Server Version 4.0
- For local IBM database support, one of each from the following:
  - DB2/2 Version 1.2 or Version 2.1 for remote IBM database support only
  - or
  - DB2 Universal Database Version 5.0, or later, for OS/2
- CAE/2 Version 1.2 or Version 2.1 (Static SQL is only supported on Version 2.1) or DB2 CAE OS/2 2.1.2 (required for extended fetch function)
- MQSeries Version 5.0

AIX
- AIX Version 4.2.1
- CICS for AIX, 2.1.1, PTF Level 4, or later, or TXSeries for AIX V4.2
- For local IBM database support, one of each from the following:
  - DB2/6000 Version 1.2 or Version 2.1 or for remote IBM database support only or DB2 Universal Database Version 5.2 for AIX
  - CAE/6000 Version 1.2 or Version 2.1 (Static SQL only supported on Version 2.1)

Solaris
- SUN SPARC uniprocessor workstation or server running Solaris Version 2.5.1 or Solaris Version 2.6
- For local IBM database support, one of each from the following:
DB2 for SUN Solaris Version 2.1 or for remote IBM database support only or DB2 Universal Database Version 5.0, or later, for Sun
CAE for SUN Solaris Version 2.1
MQSeries Version 5.0
TXSeries for Solaris, CICS Version 4.2

Supported Operating Systems for VisualAge Smalltalk Server for OS/390
MVS/ESA SP 5.1, or later or OS/390 Release 1.1, or later
LE/370 1.5 with the following PTFs, or later:
- UN85774
- UN89983
- UN94075
- UN96114
- UN97775
- UQ00290
- UQ15800
IMS/ESA 5.1, or later, if you plan to write Smalltalk applications that run on IMS
CICS/ESA 4.1, or later, if you plan to write Smalltalk applications that run on CICS ISPF 3.5, or later
DB2 for MVS 4.1, or later, if you plan to use DB2 databases. Also, for DB2, one of the following:
- OS/390 Release 1 (5645-001) and the DFSORT feature
- All of the following:
  -- DFSMS Version 1 Release 1 (5695-DF1) or MVS Data Facility Product (MVS/DFP) Version 3 Release 3 (5665-XA3)
  -- TSO Extensions (TSO/E) Version 2 Release 5 (5685-025)
  -- DFSORT Version 1 Release 13 (5740-SM1)
- For CLI, DB2 for MVS Version 5.1
MQSeries 1.1.3, or later, if you plan to use MQSeries Smalltalk classes on MVS
- SMP/E 1.8
- Assembler H 2.1
To use Web Connection on MVS, one of the following:
- MVS Web Server: Domino Go Webserver 4.6.1 for OS/390, which requires OS/390 Version 2 Release 4
- MVS Web Server: Internet Connection Secure Server for OS/390 V2R1, which requires MVS/ESA SP V5.2.2 or OS/390 R1
  When using VisualAge Smalltalk Enterprise Version 5.0
  -- Domino Go Webserver Version 5.0
  -- WebSphere Application Server for OS/390 Version 1.1 (Requires OS/390 2.5)
- When accessing DB/2 via CLI using the RRS/AF interface the following PTF's for DB/2 V5.1 are required.
  - UQ10923
  - UQ11231
  - UQ16836
  - UQ18719
  - UQ21837
  - UQ23001

Supported Operating Systems for VisualAge Smalltalk Server for AS/400e
Server Workbench feature of VisualAge Smalltalk Enterprise Version 4.5, or 5.0, for development on Windows and OS/2
AS/400e series hardware, models 600, 620, 640, or 650
OS/400® Version 4 Release 3
OS/400 Version 4 Release 3 feature OS/400 — Private Address Space Environment
OS/400 Version 4 Release 3 TCP/IP, Sockets Communications Interface
Also requires 10 MB disk space on the AS/400 server

To View VisualAge Smalltalk HTML Documentation
On Windows 95/98 and Windows NT 4.0:
- Microsoft Internet Explorer 4.0, or later
- Netscape Navigator 4.0, or later (except for 4.08, which appears to have problems with both DDE and framesets)
- Netscape Communicator 4.0, or later
On OS/2 Warp 4.0:
- Netscape Communicator 4.0, or later
On AIX:
- Netscape Navigator 4.0, or later
- Netscape Communicator 4.5, or later
On HPUX:
- Netscape Navigator 4.0, or later
- Netscape Communicator 4.5, or later
On Solaris:
- Netscape Navigator 4.0, or later
- Netscape Communicator 4.5, or later

Compatibility: Migration from Version 3, Version 4, or Version 4.5 of VisualAge Smalltalk to Version 5.0 can be a relatively simple process. Guidance is provided in the VisualAge Smalltalk Migration Guide, V5.0.
In addition, migration support services are available through the VisualAge Solutions Group. Call 919-254-1116 for availability and pricing, or you can visit their Web site at:


Planning Information
VisualAge Object Connection™ Partners in Development Program: The VisualAge Object Connection Partners in Development Program is especially designed to encourage commercial software developers to successfully explore the business of building applications, and VisualAge-enabled and Java™ reusable software components. In addition to component development, this program supports independent software vendors building VisualAge-complementary tools, frameworks, and end-user applications.
As a VisualAge Object Connection member, you receive SDP benefits, including access to VisualAge software from Software Mall® — for development purposes, and product listings of your products in the Global Software Solutions Guide. Additionally, VisualAge Object Connection members may also receive electronic Q&A support for installation, product usage, and defects.

To Join:

- Update your Solution Developer Profile to indicate an interest in VisualAge Object Connection.
- Create a Project Profile describing your product and indicating the VisualAge tools you plan to use.

IBM will contact you regarding your membership.

For more information about the VisualAge Object Connection Partners in Development Program:

- E-mail: ibmsdp@us.ibm.com
- U.S. and Canada: 800-627-8363
- Worldwide: 770-835-9902
- Fax: 770-835-9444

Customer Responsibilities: Customers creating Windows-based applications for redistribution require a license from Microsoft in order to redistribute Win32 DLLs.

Packaging: All program products are distributed on CD-ROM only.

VisualAge Smalltalk Getting Started, V5.0 (GC34-4776) is provided in hardcopy form with the base program product package and is also included on the base program product media.

The following publications are provided in HTML format only on the base program product media:

- VisualAge Smalltalk Getting Started
- VisualAge Smalltalk User’s Guide
- VisualAge Smalltalk Server Guide
- Smalltalk User’s Guide
- Smalltalk Programmer’s Reference
- VisualAge Smalltalk Installation Guide
- VisualAge Smalltalk User’s Reference
- VisualAge Smalltalk Ultra Light Client Guide and Reference
- VisualAge Smalltalk Database Guide
- VisualAge Smalltalk Migration Guide
- VisualAge Smalltalk UML Designer User’s Guide
- VisualAge Smalltalk ObjectExtender User’s Guide and Reference
- VisualAge Smalltalk Web Connection User’s Guide
- VisualAge Smalltalk Communications/Transactions Guide
- VisualAge Smalltalk Reports Guide
- VisualAge Smalltalk Domino Connection Guide

- VisualAge Smalltalk Multimedia Guide and Reference
- VisualAge Smalltalk Tivoli Connection Guide
- VisualAge Smalltalk Visualization Tools Guide
- VisualAge Smalltalk BiDirectional Languages Guide

Each of the following program products are distributed in a separate package with the content listed below:

VisualAge Smalltalk Enterprise, V5.0

- IBM International Program Licensing Agreement and License Information on CD-ROM
- Registration and Proof of Entitlement (PoE) card
- Two VisualAge Smalltalk Enterprise, V5.0 product CD-ROMs (one each for UNIX and Intel Platforms)
- Product key
- 10 try and buy software products, each on a CD-ROM
- LI Booklet for WebSphere Application Server
- VA for Java Pro V2 license Information booklet
- VA CICS Diskette
- VisualAge Smalltalk Getting Starting Book
- VisualAge Smalltalk Service brochure
- Customer Letter
- VisualAge Smalltalk, V5.0 Insert Sheet
- Publications flyer
- IPLA Pointer Sheet
- IPLA Booklet
- IBM Customer Service and Support Card
- Mail In (for European and Middle Eastern customers)

Additional Function Separately Orderable as Program Products: The documentation and code for these products is provided on the base program product media. When each of these optional features is ordered, the key provided is applied against the base product CD-ROM to unlock the additional function.

- VisualAge Smalltalk Server Workbench, V5.0
- VisualAge Smalltalk ObjectExtender, V5.0
- VisualAge Smalltalk UML Designer, V5.0

Package Content:

- Registration and PoE card
- Product key

The contents of the VisualAge Smalltalk Server, V5.0 package consists of the following:

- Two CD-ROM (one each for UNIX and Intel platforms)
- Registration and PoE card
- Product key

Security, Auditability, and Control

VisualAge Smalltalk Enterprise, V5.0 uses the security and auditability features of the development platform. VisualAge Smalltalk logs all changes in a source change log and captures change management and versioning information in a source code repository that can reside on the client machine or within a network.
The customer is responsible for evaluation, selection, and implementation of security features, administrative procedures, and appropriate controls in application systems and communication facilities.

Ordering Information

VisualAge Smalltalk Enterprise, V5.0 has two charge units, registered users and server installs. VisualAge Smalltalk Enterprise, V5.0 is available at an upgrade price for those customers currently licensed for the following qualifying programs:

- VisualAge Smalltalk Enterprise, V4.5
- VisualAge for Smalltalk Professional, V4
- VisualAge for Smalltalk V3
- VisualAge Team V1 and V2

VisualAge Smalltalk Server Workbench, V5.0 is available at an upgrade price for those customers currently licensed for the following programs:

- VisualAge Smalltalk Server Workbench, V4.5
- VisualAge for Smalltalk Distributed, V4.0

VisualAge Smalltalk ObjectExtender Version, 5.0 is available at an upgrade price for those customers currently licensed for VisualAge Smalltalk ObjectExtender, V4.5.

VisualAge Smalltalk UML Designer, V5.0 is available at an upgrade price for those customers currently licensed for VisualAge Smalltalk UML Designer, V4.5.

VisualAge Smalltalk Server, V5.0 is available at an upgrade price for those customers currently licensed for VisualAge Smalltalk Server, V4.5.

Base Programs

Program Name | Feature Number | Part Number
---|---|---
**Order Type 5801-AAR**
VisualAge Smalltalk Enterprise, V5.0 | 5171 | 39L9113
UML Designer, V5.0 | 5172 | 39L9114
ObjectExtender, V5.0 | 5173 | 39L9115
Server Workbench, V5.0 | 5174 | 39L9116
Server, V5.0 | 5175 | 39L9117

Additional Licenses

Program Name | Feature Number | Part Number
---|---|---
**Order Type 5802-AAR**
VisualAge Smalltalk Enterprise, V5.0 1 Install | 2882 | 39L8985
UML Designer, V5.0 1 Install | 2883 | 39L8986
ObjectExtender, V5.0 1 Install | 2884 | 39L8987
Server Workbench, V5.0 1 Install | 2885 | 39L8988
Server, V5.0 1 Install | 2886 | 39L8989

Upgrades

Program Name | Feature Number | Part Number
---|---|---
**Order Type 5803-AAR**
VisualAge Smalltalk Enterprise, V5.0 | 2234 | 39L8990
UML Designer, V5.0 | 2235 | 39L8991
ObjectExtender, V5.0 | 2236 | 39L8992
Server Workbench, V5.0 | 2237 | 39L8993
Server, V5.0 | 2238 | 39L8994

Upgrade PoE

Program Name | Feature Number | Part Number
---|---|---
**Order Type 5803-AAR**
VisualAge Smalltalk Enterprise, V5.0 | 1082 | 39L8995
UML Designer, V5.0 | 1083 | 39L8996
ObjectExtender, V5.0 | 1084 | 39L8997
Server Workbench, V5.0 | 1085 | 39L8998
Server, V5.0 | 1087 | 39L8999

Passport Advantage

Program Name | Order Number
---|---
**Media Packs**
VisualAge Smalltalk Enterprise, V5.0 | 39L9000
UML Designer, V5.0 | BA73IML
ObjectExtender, V5.0 | BA73VML
Server Workbench, V5.0 | BA73XML
Server, V5.0 | BA73YML

Terms and Conditions

**Licensing:** IBM International Program License Agreement. PoEs are required for all authorized use.

**License Information Form Number:** The licence information is contained on the product CD, thus there is no licence information form number.

**Limited Warranty Applies:** Yes

**Program Services:** Available until January 31, 2001

**Money-Back Guarantee:** 30-day, money-back guarantee

**Copy and Use on Home/Portable Computer:** Yes

**Usage Restriction:** Yes

For a list of the files and applications which may be redistributed without additional licenses, refer to the license agreement on the VisualAge Smalltalk Enterprise, V5.0 media.

**Support Line:** Yes

**Volume Orders:** Yes, contact your IBM representative

**Passport Advantage Applies:** Yes
**Passport Advantage Subscription Applies:** Yes

**Upgrades:** Customers can acquire upgrades up to the currently authorized level of use of the qualifying programs.

**AIX/UNIX Upgrade Protection Applies:** No

**Entitled Upgrade for Current AIX/UNIX Upgrade Protection Licensees:** No

**AS/400 Software Subscription Applies:** No

**Variable Charges Apply:** No

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**Charges**

**Base Programs — 5801-AAR**

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¹ One-time charge

Passport Advantage applicable part numbers/SKUs are created and maintained by Lotus® and are available at the following URL:

http://www.lotus.com/channelpartner

Contact your sales channel for Support Line pricing information.

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**Passport Advantage**

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http://www.lotus.com/passportadvantage

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| Mail:  | IBM Americas Call Centers |
|       | Dept. YE010 |
|       | P.O. Box 2690 |
|       | Atlanta, GA 30301-2690 |
| Reference: | YE010 |

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**Note:** Shipments will begin after the planned availability date.

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