VisualAge Version 3 Questions and Answers

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QUESTIONS and ANSWERS: General questions for VisualAge for Smalltalk

Version 3.0

1. What's New in VisualAge for Smalltalk Version 3?

   Short version

   - Making It Faster and Easier
     - Significant Performance Improvements
     - Major Enhancements to Database Functions
     - Customer-Driven Usability Enhancements
   - More and Better Parts
     - Object-Oriented Report Construction
     - Access to VBX Controls
     - Enhanced Multimedia for Kiosk Development
   - Reaching More of Your Business
     - Distributed Smalltalk
     - Native UNIX Platform Support
     - Access to existing IMS transactions

   Detailed Version

   - Making It Faster and Easier
     - Significant Performance Improvements
       - Up to 5 times faster execution
       - Machine code execution for Intel platforms
     - Major Enhancements to Database Functions
       - Database of choice
         - Native ORACLE support
         - Upgraded DB2 2.1 support for UDT, UDF, and BLOBs
         - Integrated ODBC support
       - Multiple concurrent database connections
       - Flexible data access parts
       - Improved user interface in table parts
     - Customer-Driven Usability Enhancements
       - Hover help
       - Quick start window
       - Graphical organizer window
       - User-controlled preferences

        — Easier menu construction

- More and Better Parts
  - Object-based Report Construction
    - — Reporting parts available from parts palette
    - — Reports can be developed from data (for example, a DB2 database) or development environment
    - — Built on portable print subsystem (OS/2 & Windows)
  - Access to VBX Controls
    - — VBX parts available from parts palette
  - Enhanced Multimedia for Kiosk Development
    - — Touch Screen or Hot Spots
    - — Direct graphics file support
    - — Story directors
    - — Media control interface (MCI)
  - Access to IMS Transactions as VisualAge parts
- Reaching More of Your Business
  - Distributed Smalltalk
    - — Supports partitioning of application logic
    - — Features include:
      - Name server control
      - Distribution configuration editor
      - Event profiler
      - Remote inspectors and browsers
      - Distributed debugger
      - Remote message probe
      - Distributed garbage collection
  - Native Unix Platform Support
    - — Support for AIX platform
    - — Native support for X/Motif widgets
    - — Platform of Choice: Applications port among Windows, OS/2, and Aix platforms without change
- Other Features
  - VisualAge COBOL wrapper available in base Professional product
  - Most source code, hidden in previous versions, is now available in the base product
  - Portable drag-and-drop implementation available for OS/2, Windows, and AIX

- New support for MQSeries and Remote Procedure Call (RPC) is available in Communications/Transaction Feature
- New support for wrapping IMS transactions (IMS Connection Feature)
- Enhanced support for connecting to AS/400 (AS/400 Connection Feature)

2. What are the detailed new functions and features in VisualAge for Smalltalk Version 3?

   Version 3.0 of the VisualAge for Smalltalk products include the functions of Version 2.0 plus:

   - Development and runtime support for AIX Version 4.1.3.
   - Open Database Connectivity (ODBC) support. This feature provides the ability to access data from a variety of databases and file systems which support the ODBC interface.
   - Performance improvements through tuning and enhancements to the underlying virtual machine (VM).
   - Usability improvements through improved startup, consistency in dialogs, settings, font usage, additional parts, improved help, better and more complete examples, etc.
   - Enhanced database parts for greater usability and performance.
   - Upgraded IBM Database support for DB2/2 V2.1 with support for User-defined functions (UDF), User-defined types (UDT) and Binary Large Objects (BLOBs).
   - New portable controls (notebook, container, slider, and spin button) for multi-platform support and portability.
   - Portable drag/drop support.
   - VBX support (Windows only). This feature provides the ability to wrapper existing VBX controls and use them on the VisualAge for Smalltalk palette.
   - Multimedia enhancements, including kiosk authoring enablement (OS/2 and Windows only), which includes support for hotspots and scene-to-scene navigation.
   - VisualAge for Smalltalk, Distributed for OS/2, for AIX, and for Windows, V3.0 provides the ability to develop a VisualAge for Smalltalk application on a single development platform, and split the logic of the application to run on multiple execution platforms. Facilities are provided for remote debugging, performance profiling for optimal distribution, and other features which compliment the development environment. This feature is complimentary to existing SOM/DSOM support and optimized for Smalltalk.
   - VisualAge for Smalltalk, Database for ORACLE for OS/2, for AIX, and for Windows, V3.0 provides access to ORACLE data through native APIs. (Access to ORACLE and other databases through ODBC is also provided in the base products.)
   - VisualAge for Smalltalk, Reports for OS/2 and for Windows, V3.0 provides the ability to layout reports using the facilities of the VisualAge for Smalltalk construction-from-parts paradigm.

- Message Queue Series (MQSeries) support and Remote Procedure Call (RPC) support as part of VisualAge for Smalltalk, Communications/Transactions for OS/2, for AIX, and for Windows V3.0.
- System Object Model (SOM) and Distributed SOM (DSOM) 2.1 Client support (OS/2 and AIX only).
- VisualAge for Smalltalk, AS/400 Connection for OS/2 and for Windows, V3.0 which allows access to additional AS/400 services, objects, and data, along with additional parts for VisualAge for Smalltalk.
- VisualAge for Smalltalk, IMS Connection for OS/2, for AIX, and for Windows, V3.0 provides the ability to wrap existing IMS transactions to be used as parts within the VisualAge for Smalltalk environment.

The above is the complete list. If you can′t remember all the above, below is the ″eight-bullet answer″ of Version 3.0 highlights:

- Significant performance improvements
- Major enhancements to database functions, including native ORACLE
- Customer-driven usability enhancements
- Object-oriented report construction
- Access to VBX controls (Windows version)
- Enhanced multimedia for kiosk development
- Distributed processing
- Native UNIX platform support

3. What is VisualAge for Smalltalk?

VisualAge for Smalltalk is a client/server rapid application builder for constructing state-of-the-art, flexible, scalable business applications. With extensive libraries of classes, a rich set of pre-existing parts from IBM and other vendors, wrappering of existing COBOL, C, IMS transactions or VBX controls, and multimedia authoring support, VisualAge enables rapid assembly of applications with minimal new code.

VisualAge for Smalltalk supports development on Windows, OS/2, or AIX, with full portability of applications across these target platforms.

It combines the power of a pure object-oriented environment with the ease of visual programming. Users can connect pre-fabricated, reusable components or extend these components with user-created code. It eases the learning and implementation of object-oriented technologies.

VisualAge for Smalltalk supports multiple client/server models, GUI construction, popular communications and transaction protocols, access to industry leading databases, CORBA standard for object interoperability, and multiple legacy interfaces.

VisualAge for Smalltalk Standard is the entry-level product for individual programmers. The Professional product, for individuals or teams includes versioning/control and configuration management. The Professional Server product includes a LAN repository for team development. Add-on components include support for native ORACLE data access, communications and transactions, reports, AS/400, IMS, and distributed objects.

4. Are VisualAge applications portable across OS/2, Windows and AIX platforms?

   Yes. Developers can build a single source application that is completely portable across OS/2, Windows, and AIX without any source code changes. A portable application can be developed either on an OS/2, Windows, or AIX development workstation. The programmer simply loads the code into a development image for the target execution platform and packages the application for runtime.

   Some applications may want to take advantage of system or other application features under OS/2, Windows or AIX that are unique, or are implemented differently for these platforms. Should this be the case, only the objects that interface to these unique features need to be different and are therefore non-portable.

5. What type of technology does VisualAge use to build applications?

   Application developers use a construction from components or construction from parts paradigm when using VisualAge. VisualAge is based on IBM Smalltalk which embodies the principles of Object Oriented (OO) technology to build applications. This provides all of the benefits of reuse and rapid application development. With VisualAge's GUI based development platform, proficiency in OO is not a prerequisite, thus easing the developers entry into OO.

6. Why did IBM choose an OO paradigm for VisualAge?

   OO gives programmers a higher rate of productivity and quality. It also has a reuse factor where programs inherit code, reuse it and pass it along to future programs (or future generations of programs).

7. What is Smalltalk?

   Smalltalk is a popular OO language. Often referred to as a 5GL, Smalltalk is a very powerful, high level language that offers exceptional capabilities for rapid prototyping and delivery of applications. It is an emerging language in the programming environment.

8. Whose Smalltalk does VisualAge use to build applications?

   VisualAge uses IBM Smalltalk.

9. What is IBM Smalltalk?

   IBM Smalltalk is a portable, robust, standards compliant, integrated Smalltalk language and development environment embedded as a component of VisualAge. IBM Smalltalk adheres to industry standards such as OSF MOTIF and POSIX and is based on the proposed common-base Smalltalk specification submitted to the X3J20 committee for making Smalltalk recommendations to ANSI.

10. Is the IBM Smalltalk used by VisualAge accessible by end users?

    Yes, VisualAge users can drop down into the IBM Smalltalk development environment. The IBM Smalltalk development environment consists of the Smalltalk language, the Smalltalk object model, the abundant set of class libraries shipped with VisualAge, tools for browsing, editing, compiling, configuring and debugging applications, and the Smalltalk runtime environment.

11. Is Smalltalk strategic?

    Smalltalk is a strategic language for IBM and will be developed as a standards compliant, open, multi-platform language. Smalltalk is an important and emerging object oriented language in the industry. Its usage in business and commercial application development is growing rapidly. IBM is chairing the effort to develop ANSI standards for Smalltalk and a full range of 3rd party consultants, tool vendors, and service providers are available to complement the offerings of Smalltalk vendors. IBM recognizes the value of Smalltalk and is delivering a full range of tools, education, consulting, and service offerings to address this important market.

12. What is the significance of standards?

    Standards enables the portability of code between different platforms and technologies. This means applications automatically take on the personality of the execution system for those supported standards. MOTIF allows for portability of user interface programming across systems while POSIX allows for portability of file I/O. Standards also enhances the portability of programming skills across platforms.

13. Why did IBM choose to deliver its own Smalltalk?

    IBM believes strongly in the future of OO technology and considers Smalltalk to be an important and strategic OO language. IBM now has offerings in both Smalltalk and C++ programming languages.

14. What is IBM′s primary OO language?

IBM is fully committed to OO technology. Smalltalk and C++ have emerged as the leading languages used by our customers and we support both.

Customers skilled in higher level languages like COBOL will probably prefer Smalltalk. Customers skilled in lower level languages like C will probably prefer C++.

Customer may also choose a specific language based on the type of application they are building. Smalltalk is excellent for rapid prototyping and business logic while C++ is excellent for real-time systems.

15. Do I have to choose one OO language (Smalltalk or C++) over the other?

    Customers may choose Smalltalk or C++ based on a number of considerations unique to their development skills and application characteristics. There is no right or wrong, better or worse answer. Each language has clear strengths for application development and customers will need to evaluate these against their development requirements. Customers may require assistance from IBM in making their evaluation.

    Most importantly, IBM's investment in SOM ensures that customers will be able to leverage the capabilities of both languages by providing language neutral support. This means that many customers will develop parts of their application in C++ and other parts in Smalltalk and use SOM to achieve an integrated solution.

16. Are VisualAge for Smalltalk class libraries reusable in the IBM Smalltalk development environment?

    Yes, class libraries available for VisualAge for Smalltalk, including the component features for communications, data base, and 3GL packaging can be used by IBM Smalltalk programmers.

17. Don't applications written in Smalltalk have poorer performance?

    Performance of an application depends on the design. This is true for OO languages as well as procedural languages. In OO, you must structure your objects and classes to optimize inheritance and reuse. We know of examples where performance problems were completely solved once the objects and classes were restructured and their number reduced.

18. Isn't OO a costly investment to train programmers?

    Yes, but VisualAge for Smalltalk reduces the need for extensive training, and programmers don't need to be skilled in OO to take advantage of its capabilities. In many cases, programmers don't have to be skilled in OO programming to write Smalltalk scripts or methods.

19. How does use of VisualAge for Smalltalk and IBM Smalltalk affect current investments in third generation languages?

    VisualAge for Smalltalk "wraps" C and COBOL code and makes it behave like objects within the VisualAge and Smalltalk development environments. It can then become a reusable component for new applications. When new parts need to be written, the developer can choose to use the full IBM Smalltalk environment underlying VisualAge or can choose to build new parts in C or COBOL.

    With the IMS Connection feature for Version 3, IMS transactions can be wrapped to behave as objects or parts on the VisualAge palette.

20. Does VisualAge for Smalltalk have a team or professional edition?

    Yes. VisualAge for Smalltalk actually has two base versions -- Standard and Professional. VisualAge for Smalltalk Standard is for the individual programmer. VisualAge for Smalltalk Professional is for individuals or teams and can support a LAN-based library of classes and parts, version control, configuration management and other functions that support collaborative team development. Additionally, a Professional Server product is available for VisualAge for Smalltalk and IBM Smalltalk. The professional server extends the box product by providing multiple user access and a central LAN-based library of classes and parts that developers can access concurrently.

21. What are the key advantages of VisualAge for Smalltalk?

VisualAge for Smalltalk is the only tool of its class that offers full integration of visual programming, object-oriented environment, and best-of-breed team support. Programmers never need to leave one tool to go to another to build and test a complete application. Teams of programmers can easily manage complex object-oriented development projects.

VisualAge for Smalltalk permits programmers to extend their applications and the VisualAge for Smalltalk tool itself. Where other tools require programmers to work within the limits of the tool, VisualAge allows programmers to build new extensions to the VisualAge product that become reusable components and part of the complete Smalltalk environment. VisualAge implements ″class-based″ programming, such that new parts become Smalltalk classes, which can be part of the class hierarchy system and can be located using the Smalltalk browsers.

VisualAge for Smalltalk includes state-of-the art multi-media authoring support which allows developers to build exciting kiosk-style applications.

VisualAge for Smalltalk also provides a report writer which provides the ability to layout reports using the facilities of the VisualAge construction- from-parts paradigm.

22. What are the key advantages of IBM Smalltalk?

    IBM Smalltalk is a very robust Smalltalk that is based on industry standards such as POSIX for filing systems and MOTIF for GUI. It is also based on the proposed common Smalltalk standard that was submitted to the X3J20 committee for making Smalltalk recommendations to ANSI in 1993.

    IBM Smalltalk contains a wide range of functions spanning more than 1100 classes in IBM Smalltalk and over 2500 classes in VisualAge for Smalltalk.

    IBM Smalltalk enables robust portability. Unlike other portable implementations that emulate objects on various platforms, IBM Smalltalk applications automatically take on the look and feel of target platforms by using the native platform widgets.

    Unlike simple check-in/check-out library systems, IBM Smalltalk team support includes an object-repository, true version control, and configuration management capabilities.

23. Do you have a vendor program similar to Digitalk′s and Powersoft′s that encourages third party vendors to build parts that can be utilized with VisualAge?

    We have published a Construction from Parts architecture that teaches vendors and end-users how to create their own parts. IBM′s Object Connection program for VisualAge encourages other companies to build components that enhance the applicability and value of VisualAge. We are currently working with over 100 corporate members who today are marketing over 50 products.

24. Contrast VisualGen and VisualAge as client-server AD tools.

    VisualGen provides a highly productive workstation development environment for the traditional host based COBOL developer exploiting new object oriented technologies while not requiring an investment in additional skills training. VisualGen uses a 4GL COBOL-like scripting language along with visual programming for developing line-of-business client/server solutions. VisualGen provides facilities for building both client and server components, interactive test at the source level and generation of both client and server.

VisualAge is a fully object oriented tool providing a visual programming construction from parts paradigm and uses IBM Smalltalk as the scripting language. VisualAge primarily focuses on building client/server solutions while providing extensive database access, communications support, and support for reusing existing enterprise data and code.

25. Should I consider using both VisualGen and VisualAge?

    The products are complementary to each other. Each has its own strengths. In some customer situations, one of the products may provide the right solution, while in other cases the entire solution may dictate that both will provide the ultimate benefit. For users wishing to explore the world of object-oriented programming while maintaining a 4GL development environment, VisualAge should be a very attractive addition.

26. Contrast VisualAge for Smalltalk with VisualAge C++.

    C++ is the language of choice for the professional C or C++ programmer building high performance, small footprint or real time applications. For ″close to the metal″ AD.

    Smalltalk is the language of choice for the professional programmer who wants rapid application development environment for solving their enterprise business problems. For ″business logic″ AD.

    C++ and Smalltalk are equivalent in capability, for well trained and skilled developers.

27. How does Visualizer compare with VisualAge and VisualGen?

    Visualizer is a powerful decision support tool that allows end users to visually construct database queries and generate reports. It also features add-on components up to and including a GUI builder. VisualAge and VisualGen are targeted for professional developers rather than end users and scale up for second generation client/server applications.

28. Will VisualAge for Smalltalk support Team Connection? What OO repository does VisualAge for Smalltalk use now?

    VisualAge provides team support using an object repository which is tightly integrated in the product and which provides a high-level of support for Smalltalk-based development. Our direction is to expand this excellent object repository with bridges to other technologies such as TeamConnection.

29. On what platforms will VisualAge be offered?

    VisualAge is available now on Windows 3.1, OS/2 WARP 3.0, and AIX 4.1.3. Support for Windows 95 and Windows NT is planned for 1Q96. Support for HP UNIX is planned for 2Q96. Additional platforms will be based on customer requirements.

30. When will VisualAge for Smalltalk have support for OLE?

    IBM recognizes the importance of OLE support and plans support in a future release.

31. What databases are supported by VisualAge?

    VisualAge for Smalltalk supports a wide variety of database systems including:

    - The DB2 family. On the client: DB2/2 for OS/2, DB2/6000 for AIX, and on Windows using CAE client support.

- Through connectivity services of DDCS, VisualAge for Smalltalk can access the DB2 family (including DB2 and SQL/DS and access to the AS/400).
- ORACLE
- ODBC (with industry standard drivers such as Sybase, SQL Server, Informix)

IBM intends to respond to additional customer needs for native support for other databases.

32. Can I access other databases?

    In addition to any data base driver supported by ODBC, the capability always exists within VisualAge to drop into the Smalltalk development environment to build any type of unique class library and parts you need.

33. What are the VisualAge for Smalltalk prices? (US only)

Base Product	
VisualAge for Smalltalk Standard Version 3 (OS/2 and Windows)	$1499
VisualAge for Smalltalk Professional Version 3 (OS/2, Windows, and AIX)	$3799
VisualAge for Smalltalk Professional Server Version 3 (OS/2, Windows, and AIX)	$4999
IBM Smalltalk Standard Version 3 (OS/2 and Windows)	$ 599
IBM Smalltalk Professional Version 3 (OS/2, Windows, and AIX)	$1399
IBM Smalltalk Professional Server Version 3 (OS/2, Windows, and AIX)	$3999
Add-on components for above products:	
VisualAge for Smalltalk Communications/Transactions (OS/2, Windows, and AIX)	$1349
VisualAge for Smalltalk Database for ORACLE (OS/2, Windows, and AIX)	$ 499
VisualAge for Smalltalk Reports (OS/2 and Windows)	$ 749
VisualAge for Smalltalk Distributed (OS/2, Windows, and AIX)	$2999
VisualAge for Smalltalk AS/400 Connection (OS/2, Windows, and AIX)	$1899
VisualAge for Smalltalk IMS Connection (OS/2, Windows, and AIX)	$4999

34. How do I order VisualAge? (US & Canada only)

    To place an order, contact your IBM representative or call 800-IBM-CALL. After January 1, 1996, please use 1-800-IBM-3333.

35. Is VisualAge available through 3rd party resellers?

    Yes. Customers will find VisualAge available through IBM and non-IBM resellers, such as VARs, Systems Integrators, catalogs, and corporate resellers such as Indelible Blue (1-800-776-8284) and Programmers Paradise (1-800-445-7899).

36. In what aspects is VisualAge "open"?

    - Portable among platforms - Windows, OS/2, AIX

- Supports IBM and non-IBM databases.
- Supports a variety of communication protocols, including TCP/IP, for operation in heterogeneous environments.
- Is built on a non-proprietary standards base (Smalltalk) that can be extended and modified by customers and third party vendors.

37. Does IBM offer IBM Smalltalk as a standalone product?

    Yes, as part of IBM′s continuing commitment to object oriented technology.

38. What about native support to ORACLE and Sybase in addition to native support for other databases?

    Native support for ORACLE is available for VisualAge for Smalltalk Version 3.0 (with VisualAge for Smalltalk Database for ORACLE feature). IBM recognizes native Sybase support as a high priority customer requirement and we plan to provide native support for additional non-IBM databases in the upcoming release.

39. On what platforms is IBM Smalltalk available?

    IBM Smalltalk is available on OS/2, Windows, and AIX. Win 95 and Win NT versions are planned to be available in 1Q96. Other UNIX platforms will be forthcoming with HP/UX planned for 2Q96.

40. When would a customer buy IBM Smalltalk instead of VisualAge?

    If a customer is building client/server applications and wants to take advantage of pre-built GUI, communication, and database class libraries and the ease of use of the visual construction paradigm, then they should purchase VisualAge. If a customer would rather work at the language level and develop their own set of class libraries or are considering other vendor tools for GUI, data base and communications, then they should consider IBM Smalltalk.

41. What education and training are available for VisualAge? (US only)

    IBM Education currently offers the following courses:

    - VisualAge Quickstart
    - Building Applications with VisualAge
    - VisualAge and VisualAge AS/400 Features
    - Advanced VisualAge and VisualAge AS/400 Features

    For the most current list of courses available, please call 1-800-IBM-TEACh.

    In addition, education is also provided by other education vendors. Courses available are:

    - Introduction to VisualAge (The Object People)
    - Building Applications Using VisualAge and IBM Smalltalk (The Object People)
    - Introduction to Object-Oriented Programming in IBM Smalltalk (Knowledge Systems Corporation)
    - Advanced Object-Oriented Programming in IBM Smalltalk (Knowledge Systems Corporation)
    - Bridging from Smalltalk/V to IBM Smalltalk and VisualAge (Knowledge Systems Corporation)

- Bridging from VisualWorks to IBM Smalltalk and VisualAge (Knowledge Systems Corporation)

42. What consulting (and other) services are available for VisualAge? (US only)

    Comprehensive service offerings such as designing and building C/S applications with VisualAge, setting up a team development environment for VisualAge, providing rapid, iterative development with VisualAge, and skill transfer and customized classes will be provided by the services competency centers in Boston, Los Angeles, Atlanta, New York, Cranford, and White Plains.

43. What are the suggested system requirements for VisualAge Standard and Professional development and runtime environments?

    The minimum configurations for the development time environments are:

    - VisualAge for Smalltalk, Standard for OS/2, V3.0
      - 33 MHz Intel(**) 80486 IBM or IBM-compatible
      - 24 megabytes installed RAM. If you are running other products that provide database or communications services, 32 megabytes of installed RAM are recommended.
      - CD-ROM reader (required for installation)
      - Hard disk space for installed product:
        - 35 megabytes hard disk space for installed product Additional hard disk space is required for certain options:
          - An additional 10 megabytes if SOMobjects Base Toolkit is also installed
        - An additional 23 megabytes if available multimedia samples are installed
      - 20 megabytes hard disk space for OS/2 swapper file.
      - VGA graphics monitor. An XGA(*) or SVGA display system with a minimum resolution of 1024 * 768 pels is recommended.
      - Mouse.
      - For multimedia support:
        - Any digital audio adapters, compact disc devices, or videodisc devices supported by Multimedia Presentation Manager/2(*) (MMPM/2(*)), provided with Operating System/2 Version 3.0. We recommend that you contact the manufacturer of your hardware to ensure you have the latest device drivers.
      - OS/2 Warp Version 3.0
    - VisualAge for Smalltalk, Standard for Windows, V3.0
      - 33 MHz Intel(**) 80486 IBM or IBM-compatible
      - 24 megabytes installed RAM. If you are running other products that provide database or communications services, 32 megabytes of installed RAM are recommended.
      - CD-ROM reader (required for installation)
      - Hard disk space for installed product:

    - 35 megabytes hard disk space for installed product Additional hard disk space is required for certain options:
        - An additional 10 megabytes if SOMobjects Base Toolkit is also installed
    - An additional 23 megabytes if available multimedia samples are installed
  - 20 megabytes hard disk space for OS/2 swapper file.
  - VGA graphics monitor. An XGA(*) or SVGA display system with a minimum resolution of 1024 * 768 pels is recommended.
  - Mouse.
  - For multimedia support:
    - Any digital audio adapters, compact disc devices, or videodisc devices supported by Multimedia Presentation Manager/2(*) (MMPM/2(*)), provided with Operating System/2 Version 3.0. We recommend that you contact the manufacturer of your hardware to ensure you have the latest device drivers.
  - Windows 3.11
- VisualAge for Smalltalk, Professional for OS/2, V3.0
  - 33 MHz Intel 80486 IBM or IBM-compatible
  - 24 megabytes installed RAM.
  - CD-ROM reader.
  - Hard disk space for installed product:
    - 25 megabytes for the installed client. Additional hard disk space is required for certain options:
        - An additional 10 megabytes if SOMobjects Base Toolkit is also installed
        - An additional 23 megabytes if available multimedia samples are installed
        - An additional 85 megabytes (with additional disk space required for growth of the central library) if a local manager is installed on the client.
  - 20 megabytes hard disk space for OS/2 swapper file
  - VGA graphics monitor. An XGA or SVGA display system with a minimum resolution of 1024 * 768 pels is recommended.
  - Mouse.
  - For multimedia support:
    - Any digital audio adapters, compact disc devices, or videodisc devices supported by Multimedia Presentation Manager/2(*) (MMPM/2(*)), provided with Operating System/2 Version 3.0. We recommend that you contact the manufacturer of your hardware to ensure you have the latest device drivers.
  - OS/2 Warp Version 3.0
- VisualAge for Smalltalk, Professional for Windows, V3.0

- 33 MHz Intel 80486 IBM or IBM-compatible
- 24 megabytes installed RAM.
- CD-ROM reader.
- Hard disk space for installed product:
  - 25 megabytes for the installed client. Additional hard disk space is required for certain options:
    - An additional 23 megabytes if available multimedia samples are installed
    - An additional 85 megabytes (with additional disk space required for growth of the central library) if a local manager is installed on the client.
- 20 megabytes hard disk space for OS/2 swapper file
- VGA graphics monitor. An XGA or SVGA display system with a minimum resolution of 1024 * 768 pels is recommended.
- Mouse.
- For multimedia support:
  - Any digital audio adapters, compact disc devices, or videodisc devices supported by Multimedia Presentation Manager/2(*) (MMPM/2(*)), provided with Operating System/2 Version 3.0. We recommend that you contact the manufacturer of your hardware to ensure you have the latest device drivers.
- Windows 3.11

• VisualAge for Smalltalk, Professional for AIX
  - RISC System/6000 uniprocessor POWERstation or POWERserver (including those with PowerPC card) or equivalent
  - 64 megabytes installed RAM.
  - CD-ROM reader.
  - Hard disk space for installed product.
    - On client workstations: 25MB (an additional 10 megabytes if SOMobjects Base Toolkit is also installed)
  - 200MB free disk space for paging
  - Color display supporting X-Window System Version 11 Release 5 and OSF/Motif Version 1.2. The display must support:
    - Minimum of 256 colors
    - Depth, 8 planes
    - Bits in color, 8 bits
    - Dimensions, 1280x1024 pixels
    - Resolution, 91/92 dots per inch
    - Minimum of 1MB for video adapter memory
  - Mouse

  - AIX Version 4.1.3
- VisualAge for Smalltalk, Professional Server for OS/2, AIX, and Windows Version 3.0
  - For Windows or OS/2:
    - 33 MHz Intel 80486 IBM or IBM-compatible
    - 24 megabytes installed RAM.
    - CD-ROM reader.
    - Hard disk space for installed product.
      - 85 megabytes, with additional disk space required for growth of the central library
      - An additional 23 megabytes if available multimedia samples are installed.
    - OS/2 Warp Version 3.0 (for OS/2)
    - Windows 3.11 (enhanced mode)
  - For AIX:
    - RISC System/6000 uniprocessor POWERstation or POWERserver (including those with PowerPC card) or equivalent
    - 64 megabytes installed RAM.
    - CD-ROM reader.
    - Hard disk space for installed product.
      - 85 megabytes, with additional disk space required for growth of the central library
    - AIX Version 4.1.3

44. How much disk space does the VisualAge runtime require? RAM?

    Currently the runtime applications consume a minimum of 1.5M of disk space, and depending on the size of the application and the objects being used, the target system requirements vary from a 386 with 12M of RAM to a 486 with 16M of RAM. Database operations and objects such as the notebook require more resources.

    - 33 MHz Intel 80386 IBM or IBM-compatible
    - 8-12MB installed RAM for a typical application; however, installed RAM and hard disk space depend on the size and run-time requirements of the packaged application.
    - VGA graphics monitor

45. May the Smalltalk compiler be distributed with a runtime application?

    No. Redistribution of the Smalltalk compiler is not permitted. It is a key component of the VisualAge application development environment itself. One would be required to purchase one license for each compiler distributed. However, the distribution of the runtime created is free of charge.

46. What optional features to VisualAge are available?

    VisualAge Features:

- VisualAge for Smalltalk, Distributed for OS/2, for AIX, and for Windows, Version 3

  The Distributed Smalltalk feature provides the capability to develop a VisualAge for Smalltalk application on a single development platform, and split the logic of the application to run on multiple execution platforms. Facilities are provided for remote debugging, performance profiling for optimal distribution, and for other features that make up a robust development environment. This feature is complementary to existing SOM/DSOM support and optimized for Smalltalk.

- VisualAge for Smalltalk, Reports for OS/2 and for Windows, Version 3

  Reports provides the ability to layout reports using the facilities of the VisualAge for Smalltalk construction from parts. It allows application developers to imbed custom reports in their applications.

- VisualAge for Smalltalk, Database for ORACLE, for OS/2, for AIX, and for Windows, Version 3

  Native ORACLE support provides access to ORACLE data through native APIs. (Access to ORACLE and other databases through ODBC is also provided in the base products.)

- VisualAge for Smalltalk, Communications/Transactions for OS/2, for AIX, and for Windows, Version 3

  The communications feature adds support for a variety of communications protocols including new support for Remote Procedure Call (RPC) and Message Queue Series (MQSeries):

  - TCP/IP
  - NetBIOS
  - CICS OS/2
  - Advanced Peer to Peer Communications (APPC)
  - Emulator High-level Language Application Programming Interface (EHLLAPI)
  - CPI-C
  - Remote Procedure Call (RPC)
  - Message Queue Series (MQSeries)

- VisualAge for Smalltalk, IMS Connection, for OS/2, for AIX, and for Windows, Version 3

  The IMS feature provides the capability to wrap existing IMS transactions to be used as parts within the VisualAge for Smalltalk environment.

- VisualAge for Smalltalk, AS/400 Connection, for OS/2, for AIX, and for Windows, Version 3

  AS/400 Feature - The Version 3 feature, along with other capabilities in the VisualAge for Smalltalk base product replaces the Envy/400 product. It allows VisualAge programmers to access AS/400 code, data, and functions. Version 3 enhancements allow access to additional AS/400 services, objects, and data, along with additional parts for VisualAge for Smalltalk.

47. What kind of documentation ships with VisualAge?

Documentation is top notch and includes a very complete and concise set of on-line manuals in IBM BookManager format with hypertext search and high quality graphics. Also included are several hard-copy documents including in-depth coverage of the IBM Smalltalk environment and class hierarchy.

48. Is upward compatibility being considered as new releases of VisualAge come out?

    One of the features of the IBM VisualAge development environment is the ability to easily port existing VisualAge applications to other platforms and to easily upgrade the runtime environment for a new release of VisualAge. Basically all that is necessary is to repackage the application with the new runtimes and DLL′s and you′re done.

49. What communications protocols are supported?

    Communications Protocols are supplied in VisualAge for Smalltalk, Communications/Transactions for OS/2, AIX, and for Windows, V3.0 and include:

    - TCP/IP
    - APPC
    - CPI-C
    - NetBIOS
    - CICS ECI (external call interface)
    - EHLLAPI
    - MQSeries
    - RPC

50. How is legacy code handled with VisualAge? Will I have to completely rewrite all of my existing applications?

    Legacy COBOL, C, or C++ applications may be wrappered into parts using the COBOL, C, and C++ support which is included with the base product. The IMS Connection feature provides the ability to wrap existing IMS transactions to be used as parts within the VisualAge for Smalltalk environment. IBM SOM and DSOM support will allow you to reuse existing SOM and DSOM objects as a VisualAge for Smalltalk part.

51. Does VisualAge for Smalltalk support SOM/DSOM?

    VisualAge for Smalltalk supports SOM and DSOM in the base package. VisualAge exploits SOM/DSOM parts at this time and eventually will be one of the SOM parts builders (allowing you to create SOM/DSOM objects in Smalltalk.)

52. Does VisualAge support Business Graphics?

    VisualAge does not have business graphics support, however Dakota Technologies produces a set of business graphics components called ″ChartParts″. ChartParts provides support for a variety of color high resolution charts. This package is available through Indelible Blue (1-800-776-8284) and Programmers Paradise (1-800-445-7899).

53. Does VisualAge for Smalltalk include all of the Smalltalk source code?

    The vast majority of source code is included with VisualAge. VisualAge for Smalltalk includes even more source code than Version 2. Some methods remain proprietary and are still hidden; however, this is typically code that is not required for application development (for example, method code in the Smalltalk compiler.)

54. Does VisualAge force or monitor for CUA compliance?

    CUA compliance is up to the programmer. It would have been too constrictive to limit programmers to any one specific layout, however with VisualAge it is a simple task to produce fully CUA compliant applications.

55. Will VisualAge applications that I write today be able to be ported to other system platforms as they become available?

    Yes, VisualAge for Smalltalk implements industry-standard APIs (e.g. POSIX, X/Windows, and OSF Motif) with map to the native platform widgets. As other VisualAge for Smalltalk platforms become available, you will be able to package VisualAge for Smalltalk applications (often without any changes) to the new target platform.

56. Do IBM Smalltalk and VisualAge for Smalltalk support multiple inheritance?

    No. Multiple inheritance is a property that has been confused as a characteristic of the OO paradigm. It is not. It is only mildy useful in certain situations, and invariably causes objects to carry more attributes than necessary.

57. What are the *.epf files that are placed into my OS2 subdirectory? Are they required?

    The *.epf files are placed into the /os2/system subdirectory by IBM Software Installer which is the product that VisualAge uses to install the base product and the various options onto your OS/2 or Windows system. Installer creates the directory structure, unarchives files to the proper subdirectory, modifies the config.sys, and uses these *.epf files to keep track of the current configuration, version, and revisions. So if a new release of VisualAge should be released, Installer would use these *.epf files to determine how and where to place the new files. Do you need them to run VisualAge for Smalltalk? No, but you do need them to upgrade, or to install VisualAge options. The only time these files should be deleted is if you intend to remove VisualAge from your system, or you need to completely re-install.

58. IBM is supposed to be customer focused; why is AIX the first UNIX platform over HP and SUN?

    We understand the importance of HP and SUN and have a high priority to move to HP and SUN as quickly as possible. IBM is planning to release a beta version of HP-UNIX in the first half of 1996.

59. Why is multimedia NOT supported on AIX?

    Multimedia support is not provided on AIX because there are no universal multimedia APIs in UNIX. We would be willing to work with vendors who wish to enable to VisualAge via the Object Connection program.

60. Why is VisualAge for Smalltalk Reports NOT supported on AIX?

    There are no printing APIs on UNIX. A reasonable alternative would be to implement our own postscript support. This is being reviewed as a future requirement.

61. Are the World Wide Web parts for VisualAge for Smalltalk announced in the Internet press release a part of Version 3?

No, the World Wide Web parts for VisualAge for Smalltalk are planned to be in Beta 1Q96.

62. What are the World Wide Web parts for VisualAge for Smalltalk?

    IBM will extend the VisualAge for Smalltalk products by providing a new set of parts for the VisualAge for Smalltalk palette that will enable customers to develop and deploy industrial-strength commercial business applications for the World Wide Web. This new capability will bring the power of IBM's award-winning, object-oriented programming to the Web environment. The combination of these Web parts and rich data and transaction capability of VisualAge for Smalltalk will add a new dimension to the types of applications developers can deploy on the Web. The VisualAge World Wide Web extensions are planned to enter Beta test in the first quarter of 1996.

63. Can I get early code for the World Wide Web parts?

    The code is planned to enter Beta test 1Q96. If you are interested in becoming a Beta customer, please apply to Pat Huff at 919-254-5034 (8-444-5034) or PHUFF at CARVM3.

64. How can I get more information about the World Wide Web parts for VisualAge for Smalltalk?

    A white paper is avilable on the World Wide Web. Go to the IBM Home Page, click on the search button, type goVisualAge.

65. If I am a single user but want version control and configuartion management, which product should I buy?

    You should buy VisualAge for Smalltalk Professional for OS/2 or Windows. For AIX, you must purchase VisualAge for Smalltalk Professional and VisualAge for Smalltalk Professional Server.

66. There are six members of my development team, what should I buy?

    You need six VisualAge for Smalltalk Professional packages and one VisualAge for Smalltalk Professional Server.

67. My development team environment is OS/2 but my application clients are Windows, what should I buy?

    For the team environment, you need to buy VisualAge for Smalltalk Professional for OS/2, VisualAge for Smalltalk Professional Server (platform independent) and at least one VisualAge for Smalltalk Professional for Windows for creating the runtime environment.

68. In purchasing the VisualAge for Smalltalk product for creating the runtime environment, do I need to purchase additional features for that runtime environment?

    No, the features are packaged for all applicable environments. If you are running Communications/Transactions on your development environment on OS/2, you can use that same feature on the Windows environment when you are creating the runtime environment.

69. If I have 10 VisualAge for Smalltalk Team Version 2, what upgrades can I purchase?

    You can upgrade the 10 VisualAge Teams to 10 VisualAge for Smalltalk Professional licenses and 1 VisualAge for Smalltalk Professional Server.

70. Where can I get more information on the performance benchmarks for VisualAge for Smalltalk Version 3?

    Performance data is available from NCSU on the World Wide Web: http://www2.ncsu.edu/eos/info/oo-perf/