IBM Corp.
Personal Communications for AS/400 and 3270 for Windows 95: Product Evaluation

Test Summary

Making an informed decision when purchasing business software requires extensive investigation of all aspects of a product. Initial cost, product features, training costs, and other support costs, can greatly affect the success of the product in your organization throughout its life cycle. To define these aspects, IBM contracted Design Insight, a market research firm, to quantify the basic evaluation categories. Subsequently, IBM commissioned The Tolly Group to create validation criteria for each category, and evaluate the Personal Communications emulator.

Design Insight produced a set of eight evaluation categories entitled Customer $APPEALS. IBM adopted the $APPEALS approach as the basis for end-user focus groups for 3270 and 5250 emulator products. The objective of the focus groups was to determine each category's relative importance. The Tolly Group then used this information to create test criteria for a hands-on evaluation that might be used to assess various emulator products. The Tolly Group then tested IBM Personal Communications for 3270 and 5250 for Windows 95 using these criteria.
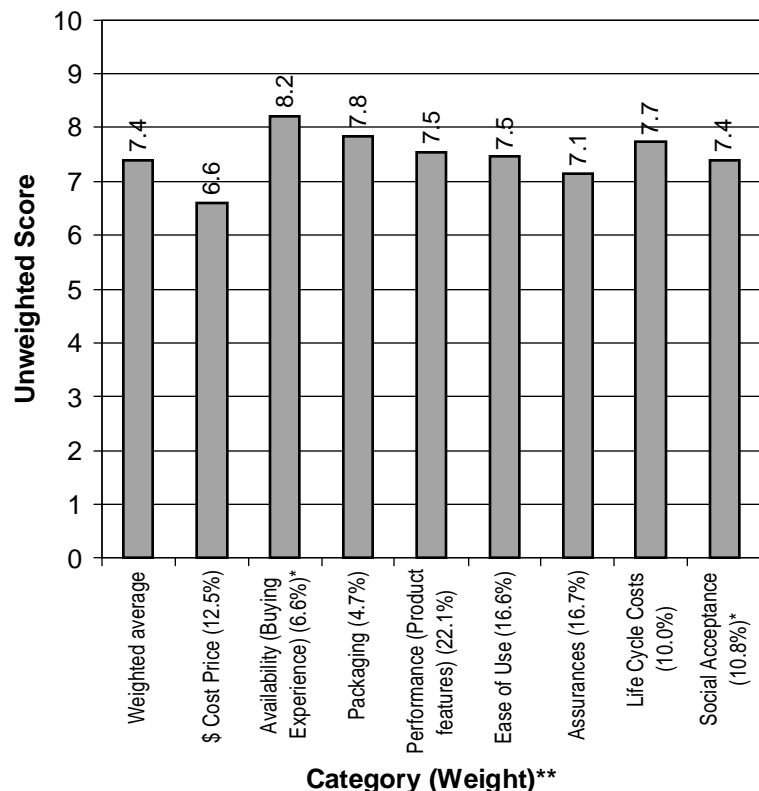
TEST RESULTS

Personal Communications earned an overall score of 7.4 out of a possible 10 (see figure 1, first bar). In addition to the weighted average, figure 1 in-

Test Highlights

❍ Personal Communications achieved a rating of "Excellent" in five of eight evaluation categories, and a "Good" rating in the remaining three evaluation categories.
❍ IBM packages both AS/400 and 3270 support for Windows 95, Windows NT, OS/2, and Windows 3.1 on a single CD-ROM.
❍ All documentation can be viewed on-line or printed from the CD-ROM.

Personal Communications for AS/400 and 3270 for Windows 95 Evaluation Results (Untested Categories = 7.4)

Bar chart — Unweighted Score (y-axis, 0 to 10) by Category (Weight) (x-axis):
- Weighted average: 7.4
- $ Cost Price (12.5%): 6.6
- Availability (Buying Experience) (6.6%)*: 8.2
- Packaging (4.7%): 7.8
- Performance (Product features) (22.1%): 7.5
- Ease of Use (16.6%): 7.5
- Assurances (16.7%): 7.1
- Life Cycle Costs (10.0%): 7.7
- Social Acceptance (10.8%)*: 7.4

* = Indicates was not tested and was assigned either a value of 10.0 or 7.4.
** = Categories and weight provided by "Customer $APPEALS", copyright and service mark of Design Insight and Peter Marks.
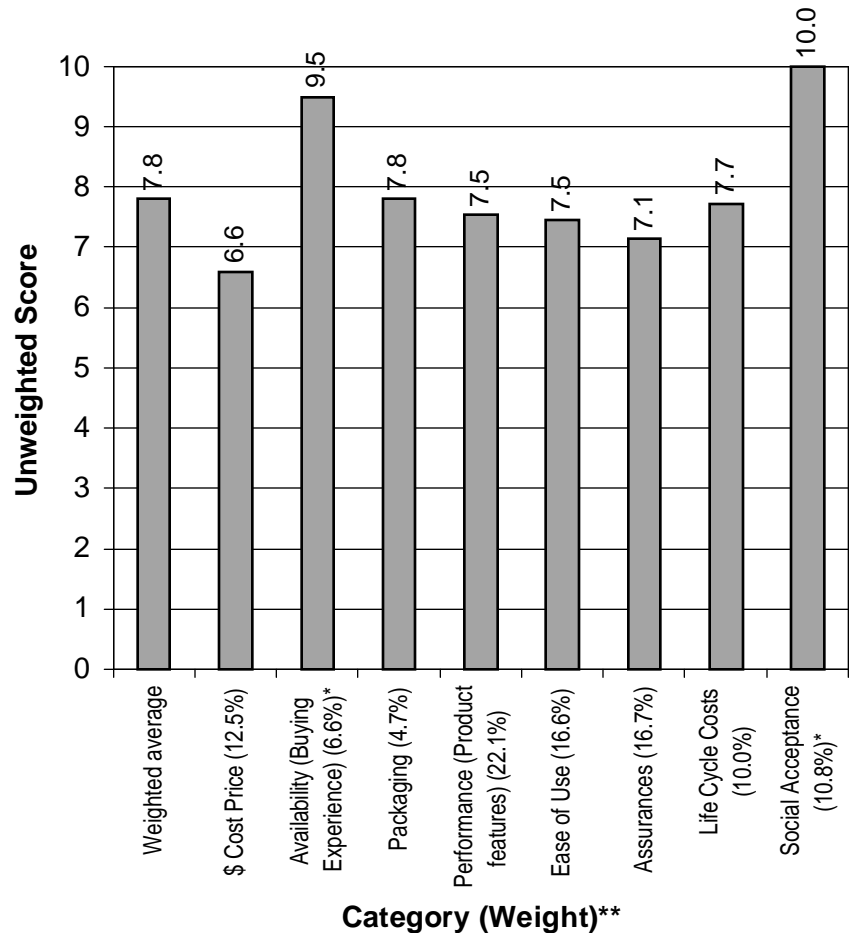
Source: The Tolly Group, February 1997   *Figure 1*

cludes the raw scores for each category. Personal Communications achieved a 7.5 or better (an excellent rating) in five of eight categories. It received a score of 8.2 in the *Availability (Buying Experience)* category, a 7.8 in the *Packaging* category, a 7.5 for both *Performance (Product features)* and *Ease of Use*, and a 7.7 in the *Life Cycle Costs* category. Further, Personal Communications earned a score of 5.0 or better (a good rating), on the remaining categories: a 6.6 in the *$Cost Price* category, a 7.1 for *Assurances*, and 7.4 for *Social Acceptance.*

Two of the $APPEALS categories, the *Social Acceptance* category and the *Sales and Marketing effectiveness* sub-category (shaded gray in figure 3), were beyond the scope of this evaluation. To make the evaluation complete, The Tolly Group arbitrarily assigned the best numerical score of each rating (e.g., a 7.4 for a "good" rating) to determine the untested category's effect on the overall score. Further, since end-users would most likely not evaluate products from companies they believed had *Social Acceptance* and *Sales and Marketing effectiveness* ratings of poor, or fair, The Tolly Group only assigned good, or excellent ratings to the untested categories. Figure 1 illustrates the evaluation results with the untested categories assigned a rating of "Good" (7.4), and figure 2 the results with a rating of "Excellent" (10.0).

Please refer to figure 3 for a list of each category and its related sub-categories in conjunction with the following results highlights.

Personal Communications for AS/400 and 3270 for Windows 95 Evaluation Results (Untested Categories = 10.0)

Unweighted Score values by Category (Weight)**:
- Weighted average: 7.8
- $ Cost Price (12.5%): 6.6
- Availability (Buying Experience) (6.6%)*: 9.5
- Packaging (4.7%): 7.8
- Performance (Product features) (22.1%): 7.5
- Ease of Use (16.6%): 7.5
- Assurances (16.7%): 7.1
- Life Cycle Costs (10.0%): 7.7
- Social Acceptance (10.8%)*: 10.0

* = Indicates was not tested and was assigned either a value of 10.0 or 7.4.
** = Categories and weight provided by "Customer $APPEALS", copyright and service mark of Design Insight and Peter Marks.

Source: The Tolly Group, February 1997   *Figure 2*

$ Cost Price

The *$Cost Price* category is composed of the initial purchase of the product, the cost of subsequent upgrades, and the balance of the list price paid for the product and the breadth of features offered by the product. Because, IBM bundles all versions of its software (Windows 95, Windows NT, OS/2, and Windows 3.1) on the same CD-ROM, a company that uses multiple operating systems saves on price. Personal Communication's higher price and upgrade price, however,

may not benefit corporations that use only one OS. The price the vendor charges for the feature set is comparable to current industry offerings.

Availability (Buying Experience)

Sales and Marketing effectiveness, ease of obtaining the product from the vendor, and the variety of sources for available for purchasing the product, are the major elements of this category. The Tolly Group determined that obtaining Personal Communications from

IBM was relatively easy and that the vendor offers extensive purchase options including ordering from IBM sales channels, local distributors, VARs, a world-wide tele-sales network, and on-line ordering via IBM's web page. The Tolly Group did not evaluate Sales and Marketing effectiveness.

Packaging

Packaging focuses on distribution media (floppy disk, CD-ROM, electronic distribution via the Internet), the type of documentation shipped with the product (electronic or paper, etc.), and software bundles and suites with which the product may be packaged to reduce overall cost.

Personal Communications is shipped on all major media, including 3.5 inch Floppy disks and CD-ROM, with the exception of electronic distribution. This provides flexible installation on multiple PC types. End-user documentation is shipped in its entirety on the CD-ROM, allowing fast on-line access and searchable text. Additionally, on-line documentation is context-sensitive, simplifying help navigation. All user manuals can be printed to a DOS LPT port, or viewed on-screen.

As mentioned in *$Cost Price,* IBM packages all of its versions of Personal Communications in one CD-ROM. IBM also bundles thin versions of Personal Communications with OS/2 and some of its connectivity hardware products. IBM does need to improve the integration of the on-line documentation viewing application with Windows 95, and printing of the documentation which can only be printed from a DOS capture of the LPT port.

Performance (Product features)

Performance (Product features) evaluates traditional performance (i.e., file transfer performance and response time), the level of functionality, and the applicability of the product's feature set to the average user's environment. The findings are that Personal Communications delivers file transfer performance and response time that more than meet the needs of the average user. Personal Communications has a wide range of features including, good macro support and extensive API support including APPC, CPI-C, DDE, EHLLAPI, PCSAPI, RUI, SRPI, LUA, and CSV APIs. Personal Communications has extensive debugging facilities including tracing of a wide range of parameters, and an on-line search engine for sense codes, and it supports AS/400 Distributed Data Management (DDM).

Additional features included with Personal Communications are the APING utility which tests for APPC connectivity, AFTP, which is file transfer for APPC, and an AS/400 file transfer utility. Also, ZipPrint allows printing of host system files, and includes PROFS or OfficeVision support for notes, calendars, and documents, CMS files, and XEDIT workspaces without a printer emulation session.

Personal Communications offers extensive connectivity options. Since Personal Communications uses Windows 95 networking, it can support most adapters supported by Windows 95. Personal Communications supports IBM Mainframe and AS/400 systems, Novell NetWare for

IBM Corp.

Personal Communications for AS/400 and 3270 for Windows 95

Product Evaluation

THE TOLLY GROUP

Up to Spec

CERTIFIED

IBM Corp.
Personal Communications for AS/400 and 3270 for Windows 95
Product Specifications*

Key Features
- ❑ Full-function
- ❑ Native 32-bit Windows 95 Application
- ❑ SNA-based client support for 5250 and 3270 emulation
- ❑ Client/server
- ❑ Peer-to-peer computing
- ❑ Multiple client APIs
- ❑ Automation tools including ZipPrint and CMMOUSE
- ❑ Powerful system administrator tools
- ❑ Easy to install and configure
- ❑ Versatile connectivity options
- ❑ Superior asynchronous support including wireless cellular data communications
- ❑ APPN end-node, HPR, and DLUR
- ❑ User-customized emulator settings
- ❑ File transfer

Features specific to 5250 emulation:
- ❑ Data Transfer (SQL file transfer)
- ❑ ENPTUI
- ❑ PC Organizer support
- ❑ Text Assist
- ❑ Support of OS/400® Version 2.2, or later

Features specific to 3270 emulation:
- ❑ Connection to the IBM Global Network
- ❑ Native GDDM and non-GDDM graphics

For additional Information Contact your local Reseller or:
IBM Corporation
PCOMM Brand Management, Department F23A
P.O. Box 12195
Research Triangle Park, NC 27709
1-800-IBM-CALL
1-800-426-2255

Vendor-supplied information not verified by The Tolly Group

Numeric Results

Category	Sub-category	Unweighted Results		Weight
		Untested= 7.4	Untested= 10.0	
Overall Weighted Score		7.4	7.8	
Category	**Sub-category**			
$ Cost price		6.6	6.6	12.5%
	Price of software when acquired	7.4	7.4	4.2%
	Price of upgrades	5.0	5.0	4.2%
	Value of functionality	7.4	7.4	4.2%
Availability (Buying Experience)		8.2	9.5	6.6%
	Sales and Marketing effectiveness	7.4	10.0	3.3%
	Ease of fulfillment and variety of alternate channels	9.0	9.0	3.3%
Packaging		7.8	7.8	4.7%
	Software media	7.0	7.0	1.6%
	End-user documentation	6.5	6.5	1.6%
	Software bundles/suites	9.5	9.5	1.6%
Performance (Product features)		7.5	7.5	22.1%
	Software functionality meets needs	7.0	7.0	7.4%
	Software speed meets needs	8.0	8.0	7.4%
	Software works in preferred environment (interoperability)	7.5	7.5	7.4%
Ease of Use		7.5	7.5	16.6%
	Ease of using product	6.5	6.5	3.3%
	Ease of software install	9.5	9.5	3.3%
	Ease of configuration	7.0	7.0	3.3%
	Documentation ease of use	6.5	6.5	3.3%
	Training	8.0	8.0	3.3%
Assurances		7.1	7.1	16.7%
	Software reliability	7.4	7.4	5.6%
	Service and Support	4.9	4.9	5.6%
	Quality of new software versions	9.0	9.0	5.6%
Life Cycle Costs		7.7	7.7	10.0%
	Network and Systems Administration costs	9.5	9.5	2.5%
	Migration costs	7.6	7.6	2.5%
	Platform support costs	4.8	4.8	2.5%
	Training costs	9.0	9.0	2.5%
Social Acceptance		7.4	10.0	10.8%
	Corporate reputation	7.4	10.0	3.6%
	Breadth of product line	7.4	10.0	3.6%
	Marketplace image	7.4	10.0	3.6%

Note: Shaded areas indicate untested Category and/or Sub-category.

Source: The Tolly Group, February 1997

Figure 3

Scoring

Rating	Description	Numerical value of ratings
Excellent	Complies with all aspects	7.5-10.0
Good	Complies with most aspects	5.0-7.4
Fair	Complies with most aspects, but falls short in a key area	2.5-4.9
Poor	Missing key aspects	0.0-2.4

Source: The Tolly Group, February 1997   *Figure 4*

SAA gateway, Microsoft SNA Server gateway, Dependent LU Requester, and HPR communication. It also supports LU 2.x and 6.2 LU types, 802.2, IPX/SPX, TCP/IP protocols. Personal Communications supports 4 major operating systems: Windows 95, Windows NT, OS/2, and Windows 3.1.

Personal Communications does need; however, to add support for OLE and ODBC, and better integrate the application that displays the CD-ROM documentation with Windows 95.

Ease of Use

The *Ease of Use* category gauges the usability of software installation, configuration, documentation, and everyday use, as well as the complexity of training others to use the product. Overall, Personal Communications is easy to install and configure, and has extensive ease-of-use enhancing features, such as 3270 application controls that are accessible via a user-definable toolbar, macro mapping to the keyboard, flexible Hot spots, and drag and drop text color modification. The file transfer window is easy to use and supports cut/paste of host file lists and the saving of recently used uploads/downloads. Additionally, Personal Communications includes an application called CMMOUSE that allows administrators to program the mouse to activate macros or applications based on screen location (at any screen location). CMMOUSE is essentially an enhanced hot spot utility.

The use of the Windows 95 install wizard, and graphical representations of connectivity paths on the configuration window facilitated installation. Documentation is well organized, has an index, table of contents, a glossary, and is available on both paper and in electronic format. The context sensitive on-line help is also an ease of use feature.

To simplify training, the vendor provides customer education classes, and a training CD-ROM. Further, Personal Communication's interface is consistent across all four operating systems.

On the negative side, the keyboard mapping does not support drag and drop, and is not intuitively organized.

Macro editing is also not well organized and customization is performed from a "customize" button under a window called "Macro Setup". Additionally, an error occurred on several occasions when attempting to add an icon for the specified configuration to the start menu, and documentation does not have a master index for easy lookup of subjects.

Assurances

The *Assurances* category includes software reliability, quality of service and support, and the level of improvement of the product (e.g., bug fixes, added features, etc.) offered by new software versions. Personal Communications is a very stable application. Despite the lack of a free technical support period with purchase, IBM offers many support options outlined on IBM's web-site. Further, IBM is considering the addition of a free technical support period in the future. IBM also updates Personal Communications frequently, illustrating IBM's dedication to improving the product.

Life Cycle Costs

Life Cycle Costs include the costs of network and systems administration, migration, platform support, and training. Personal Communications offers many time saving features including trace facilities, on-line sense-code explanations, and a CD-ROM training application. Additionally, IBM offers free software fixes and updates.

Social Acceptance

Social Acceptance deals with corporate reputation of the vendor, breadth of vendor product line, and the marketplace image the vendor has in the industry.

This category was not tested and was awarded either a 7.4 or a 10.0 (see Scoring, in Test Methodology).

Test Methodology

Each of the eight categories from Customer $APPEALS were used to determine evaluation criteria for a hands-on test of 3270 and 5250 emulator products. The Tolly Group determined sub-categories for each category and appropriate test procedures for evaluating each. Specific test methodologies for each sub-category can be found on The Tolly Group's web at http:\\www.tolly.com, benchmark number 1115.

Scoring

All sub-categories were awarded a 0-10 score as outlined in figure 3. "Testable" criteria for some categories and sub-categories could not be determined because of their complexity or if extensive resource was required to evaluate them. The Tolly Group arbitrarily assigned these categories and sub-categories one of two scores to determine their impact on the overall evaluation score. Values of either 7.4 (the maximum good rating), or 10.0 (the maximum excellent rating), were assigned to the Sales and Marketing effectiveness sub-category *(Availability (Buying Experience))*, and the *Social Acceptance* category.

Test Bed

For the installation and performance tests, The Tolly Group connected a ProStar 5200 Pentium 150 laptop with 32 Mbytes or RAM running Windows 95 to an IBM 9370 host. The laptop used a Madge 16/4 Smart PCMCIA Ringnode token ring adapter and SystemSoft CardWorks for Windows 95 PCMCIA software. The host used a PU passthrough gateway with one token ring interface card (TIC). Both devices were connected to the same 16 Mbit/s token ring. All other information was obtained from IBM representatives, IBM documentation, and the World Wide Web via web sites of IBM and of manufacturers of similar products.

About The Tolly Group

The Tolly Group provides strategic consulting, independent testing, and industry analysis. It offers a full range of services designed to furnish both vendor and end-user communities with authoritative, unbiased information. *Fortune* 1,000 companies look to The Tolly Group for vendor-independent assessments of critical corporate technologies. Leading manufacturers of computer and communications products engage The Tolly Group to test both pre-production and production equipment.

The Tolly Group is recognized worldwide for its expertise in assessing leading-edge technologies including networking, multimedia, and messaging. By combining engineering-caliber test methodologies with informed interpretation, The Tolly Group consistently delivers meaningful analyses of technology solutions. The Tolly Group has published more than 100 product evaluations, network design features and columns in the industry's most prestigious publications.

Kevin Tolly is President and CEO of The Tolly Group. He is a leading industry analyst and is responsible for guiding the technology decisions of major vendor and end-user organizations. In his consulting work, Tolly has designed enterprise-wide networks for government agencies, banks, retailers, and manufacturers.

For more information on The Tolly Group's services, visit our World Wide Web site at ***http://www.tolly.com,*** email to info@tolly.com, call 800-933-1699 or 908-528-3300, or fax 908-528-1888.

Tolly Group doc. 7267 rev. 4Mar97