



Visio Corporation Confidential

How to Fix IntelliCAD

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There was a farmer who had a successful roadside fruit stand selling apples. Then he decided to get into the berry business, but he wasn't experienced with berries and ended up picking them too soon. Customers to his fruit stand noticed the premature berries and decided that all of his fruit was probably unfit. Soon his business dried up and he closed his fruit stand.

Visio had high expectations for IntelliCAD, and there's no reason to believe that those expectations were unrealistic. Selling a low cost product into an established market should have resulted in tremendous sales. Investors expectations were just as high: users would flock to the new product, sales would soar, and the stock would climb. That was the general idea, and it should have happened, but it didn't. IntelliCAD sales are not just flat, but declining. It falls far short of user expectations and of Visio's published claims. It is clear that IntelliCAD was released prematurely.

The situation is far from hopeless, but steps need to be taken to repair the damage and insure our future. This document seeks to isolate the problem and provides recommendations for bringing respectability and success to IntelliCAD.

The Problem

- IntelliCAD is not compatible
- IntelliCAD falls far short of published claims
- IntelliCAD is very buggy, has architectural problems
- IntelliCAD is underpriced
- IntelliCAD is lacking resources
- IntelliCAD program team morale is low
- The stock is underpriced
- End-users have stopped using the product and developers have stopped developing

The Solution

- Commit Resources
- Designate someone in charge of compatibility.
- Fix bugs and issue updates
- Heavy PR
- Raise the price
- Recognize that CAD and technical drawing are two distinct markets, neither of which Visio can afford to ignore. This will require two products, now, and in the long term.
- Convert IntelliCAD to an object-oriented product. This apparently is in progress.

Compatibility

IntelliCAD, the sort-of compatible to AutoCAD CAD program

How successful would AMD or Cyrix be if they were trying to sell chips that were not 100% compatible? There is a huge market of people who would readily accept IntelliCAD if migrating were painless. Showing them how to migrate is not painless, the migration has to be done for them.

Re: Actrix, from John Forbes, December, 1998.

"Actrix has a wizard that can convert Smartshapes to ActiveShapes, but it cannot convert Visio drawing files. You must own a copy of Visio Technical 5.0 to do be able to run the conversion wizard in Actrix. The conversion wizard has a significant failure rate when converting Smartshapes (often resulting in unusable shapes in Actrix), and some degree of intelligence is lost on many of the Smartshapes it can convert."

Actrix is much closer to being like Visio Technical than IntelliCAD is to being like AutoCAD.

The standard for whether IntelliCAD is compatible or not is "Can it use existing AutoCAD files without modification?" The answer is clearly no. The only files that are close to 100% portable are .dwg files. Only simple LISP and SDS programs are portable, anything with a moderate degree of sophistication requires a lot of work and debugging. Menu files are also not portable as they must be imported and there are serious deficiencies in the management and control of menus.

SDS and LISP are not dead. There are millions of lines of legacy code developed by users and 3rd party developers. LISP is actually more viable than SDS. Autodesk has incorporated Visual LISP into AutoCAD and in addition to being able to use Active-X components it is also able to access all VBA methods built into AutoCAD and can act as an Active X client or server! ADS, on the other hand, is being removed from AutoCAD altogether. This also provides an opportunity, as users with existing ADS code will not be able to upgrade without reprogramming their applications. These users tend to be large corporate clients: the kind Visio would like to have as customers.

In the future, after we have established a presence and following in the marketplace, we will be able to stray from the Autodesk standard and create our own. Until that happens we should be very careful and deliberate about deviating from the AutoCAD standard. This is not to say that we can't innovate, only that we can't do it to the exclusion of maintaining compatibility.

From [The Better Way to Draw, A Strategic Viewpoint](#), Paul Lewis, Director of CAD Strategy Visio Corporation 2/9/99: *"Avoid taking on Autodesk's **legacy drag**. DWG is for Autodesk a double-edged sword. It has brought them to a dominant market position, but it has also created drag on their ability to innovate. This drag is based on a history of gluing new capabilities onto old technology, and maintaining backward compatibility and cross-platform compatibility.*

Visio must be very careful not to pick up the drag of backward compatibility by building a customer base for IntelliCAD that cannot be quickly moved to Visio technology. To build such a customer base will only lead to more and more pressure to add features to IntelliCAD. This will inevitably reduce the resources available to develop Visio Technical and the required technology for DWG interoperability."

AutoCAD has very little in the way of legacy drag. AutoCAD was completely rewritten from the ground up for Release 13. All entities were converted to objects with methods and properties. AutoCAD also runs on just a single platform; UNIX and Macintosh versions were discontinued. LISP continues to be the easiest way to customize the CAD platform because it can be interpreted at the command line and embedded in menus, and these are the methods that are easiest for the average user to understand.

From [The Better Way to Draw, A Strategic Viewpoint](#), Paul Lewis, Director of CAD Strategy Visio Corporation 2/9/99: *"CAD users have invested a lot over the years to acquire, learn, and maintain*

the CAD hardware and software they use. They have an even greater investment in the body of expertise that allows them to be productive with AutoCAD . . . DWG is the dominant technical drawing format.”

From New CAD on the Block, Tony Zilles, Design Drawing Magazine: “*There’s no secret in the fact that IntelliCAD plays the AutoCAD tune loud and long. It’s a major plank in the promotional platform that will attract users in droves.*”

Vision & Strategy

Visio's strategy of providing “a better way to draw” is a valid one, but it requires more than a platform such as AutoCAD or Visio, it requires application software, created by developers, either third-party or in-house. Visio may make it easier for these developers to create intelligent shapes than is possible with AutoCAD or Actrix, but this is largely irrelevant to the end-user if he can buy what he needs ready-made. Autodesk has devoted far more resources to Actrix than Visio has devoted to IntelliCAD. Not only has Autodesk taken the threat far more seriously, but with their resources of money and talent, and their installed base which Visio covets, they are better poised to meet the challenge. Visio must take the threat of competition far more seriously if we are to succeed.

Part of our strategy needs to be that we consider the average user to be a developer who wants to customize the product to fit his particular needs. Most CAD users already know how to do this with AutoLISP, and LISP will continue to be the preferred method until an easier one becomes available. It might be tempting to think that we can move IntelliCAD customers to Visio Technical, but it would be far easier to add something like a ShapeSheet to IntelliCAD.

The Marketplace

Visio's target market for Technical, engineers and designers, are considered to be adjacent seats: adjacent to CAD. Visio correctly determined that if it was to break into that market that it would need a CAD product, and since IntelliCAD offered both the technology and price to break into that market, it was a reasonable choice. Its promise to users and developers was a compatible platform, one they could easily migrate to with little effort, preserving their investment in drawings and code. Lower cost and compatibility are the best ingredients for a recipe of success.

Visio has been able to enter the CAD market at a relatively low cost compared to Autodesk. We have not had to spend any money or time developing a standard or building momentum. There is a ready-made customer base and developer community. These facts enabled Visio to sell more seats in one year than Autodesk did in its first four years of business. If the product had met its objectives and worked as advertised there is no reason to believe that sales would not have continued to grow.

I don't think we've made up our mind on what we want IntelliCAD to be. Is it an easy to use tool for part-time users or is it a hard-core drafting tool for production-oriented drafting?

What are the needs of our targeted market?

Engineers need ease of use and compatibility with .dwg

Drafters need speed

Manufacturers (and everyone else) need accuracy

We have failed to meet these requirements. Ease-of-use is achieved with Visio Technical, but not .dwg compatibility or speed. IntelliCAD achieves .dwg compatibility but lacks ease-of-use, speed, and accuracy. Although IntelliCAD's database has internal accuracy, its UI and API introduce inaccuracies by producing unexpected or erroneous results. Even a single error in an unrelated area can keep people from using it because they won't be able to trust it. When the original Pentium was discovered to produce errors in rare circumstances Intel was forced to offer replacements to all owners in order to maintain faith in the product. Their cost of manufacturing replacements far exceeds ours, but their credibility is priceless.

The market Visio should want for IntelliCAD is not those who can't afford anything else (AutoCAD) but instead those who can afford AutoCAD but have determined that IntelliCAD will meet their needs.

IntelliCAD users, unlike Visio users, generally use the software full-time and are very production oriented. They are going to be much more critical of IntelliCAD's deficiencies. If any savings that might be realized from using IntelliCAD are eaten up by the cost of porting in-house routines and menus then IntelliCAD will not be worth buying. This is likely the reason our product is being considered by just a few large organizations that can justify this expense, and a handful of individuals who can't afford AutoCAD.

Press Release dated July 23, 1998 Visio Exceeds Expectations for Shipments of IntelliCAD 98: "*Visio Corp. (Nasdaq "VSIO") today announced that the first three months of sales for its new Microsoft Windows-based CAD product, IntelliCAD® 98 by Visio, have exceeded company expectations. IntelliCAD's early sales volume demonstrates an impressive initial acceptance for a new technical software product Visio anticipates that the early data regarding IntelliCAD sales . . . will translate into a firm and growing foothold in the PC CAD marketplace.*"

Press Release dated February 27, 1997, Visio Corporation Announces Acquisition of CAD Technology and Assets of Boomerang Technology Inc. : "*Visio acquired source code and certain other assets for cash payments totaling \$6.7 million.*"

Bugs

User Issues

- Still a number of situations that can cause a crash with loss of data.
- Problems creating properly formatted dimensions
- Can't OSNAP to all entities, specifically dimensions and blocks, wrong point sometimes returned.
- Lack of feedback from cursor and coordinate display making it difficult to draw visually.
- Problems working with entities in 3D
- Certain editing operations can introduce inaccuracies

Developer Issues

- Functions documented and active but stubbed out internally
- Many DCL problems, some of which can cause a crash or lock-up
- Architectural problems with the API that prevent correct processing of user input.
- Menu macros are not parsed properly, creating incompatibility and impossibility.
- Lack of control over the interface.

Quality Assurance

After five releases of IntelliCAD it is still not a production-quality product. It appears that QA does not have the authority to prohibit the release of the product, completely undermining the reason for having QA. Those responsible for assuring the quality of the product should have their hand on the OFF switch at all times to stop the machine from spitting out bad product. The workers at GM's Saturn plants have the authority to stop the assembly line at any time if necessary if it will affect the quality of the product. Although this may be more marketing ploy than reality, it is important for those creating a product to have some control over the release of it. This should include sign-off by all groups involved in the development. Obviously this could be overruled by the executives, but in general no one group should be able to release the product without the approval of all the groups who have a stake in it.

There has been undue pressure to release the product too early. Prior to the release of 98D the priority and severity of many bugs was changed (lowered) to allow release of the product. The

sheer number of significant bugs (over 600) made this largely irrelevant: the product was not going to get fixed in the 98D timeframe. The short-term gains from releasing the product early are far outweighed by the long-term costs of lost sales and repairing credibility. Investors may only care about the latest quarter, but we need to plan ahead if we want our latest quarter to be our greatest quarter.

Beta versions must be released to developers and users well in advance of the final product in order to allow time for us to respond to feedback. This should probably be at least two months. For Visio Technical, a much more stable platform, the time from Beta to release is over four months. IntelliCAD 2000 beta would have to be released today to allow four months for testing.

Testing needs to be automated to provide immediate feedback when something gets broken. There is currently no way of knowing if fixing one bug has broken something else. It has been weeks later or after the release of the product that problems have been discovered.

From The Better Way to Draw, A Strategic Viewpoint, Paul Lewis, Director of CAD Strategy Visio Corporation 2/9/99: *“Designers, engineers and contractors are very pragmatic. They have a lot riding on the decision to change tools. After all, the projects they work on are worth millions, and carry potential liability for decades to come. Moreover, drawing is fundamental to their businesses. In many cases, drawings are the sole means to deliver their work. Choosing the wrong drawing product can be disastrous.”*

Press release dated March, 16 1998, Visio Announces Availability Of Highly Anticipated Windows-Based CAD Application: *“Visio is releasing IntelliCAD 98 for distribution after completion of a successful testing program that encompassed over 3,000 beta testers worldwide.”*

Press release dated December 3, 1997, Visio Ships Preview of IntelliCAD Software: *“IntelliCAD fully supports AutoLISP, allowing users to run their custom scripts unmodified.”*

Press release dated June, 17 1997, CAD Vendors Join Visio Business Partner Program: *“The Phoenix technology runs AutoLISP scripts unmodified, and turn-key AutoCAD applications developed for the ADS API require only simple recompilation to run on top of the Phoenix technology. No “porting” or code modification is necessary, so third-party vendors can offer support for both AutoCAD and Visio's Phoenix technology as application platforms simultaneously, with a minimum of effort and cost.”*

Leadership

The direction of the product is unclear and it is not exactly inspiring confidence among employees. There have been several defections and if leadership is not shown it is likely that there will be more. People want a vision they can believe in that doesn't threaten their jobs.

Communication

There is currently a lack of communication from the top down. It is unclear where decisions are being made or why. Input or suggestions are uninvited and generally ignored. Information does not flow freely and there seems to be a resistance to releasing it. Much of this is a result of IntelliCAD's poor sales and lack of resources creating a defensive attitude among team members.

Morale

Currently morale on the IntelliCAD team is poor. Not only do people not enjoy working on a product that is beyond their ability to change but they also believe that they are perceived as being a drag on the company bottom line. This is reinforced by management's stated goal of eliminating the product and the more subtle effect of “reallocating” resources. The whole of Visio needs to understand the importance of IntelliCAD and its technology being necessary for Visio's future. That understanding appears to be lacking.

Commitment

If we want employees to enjoy their jobs we need to demonstrate commitment to the product. If we want customers to buy our product (or more than one copy of it) we need to demonstrate

commitment to the product. If we want investors to believe we have a strategy for the future we need to demonstrate commitment to the product. We can demonstrate commitment by living up to claims and expectations.

Marketing

Perceptions

Damage has been done and is continuing to be done to Visios reputation. Bad word-of-mouth will continue to keep IntelliCAD from selling and will eventually hurt other products as well because users will make the decision to go with Autodesk's suite of products instead of Visios. We have a situation now where any user problem is going to be perceived as a bug until proven otherwise. Visio is going to have to put out effort above and beyond what is expected in order to repair the damage. This may involve providing more frequent patches or updates.

User Considerations and Expectations

The following user issues need to be addressed, fixed, and followed up with press releases and marketing heralding our achievement.

Accuracy

IntelliCAD is not an artistic or visualization product where errors in accuracy can be forgiven. Any errors should be addressed and fixed quickly.

Reliability

Our product must be made stable and thoroughly tested

Performance

Performance and speed are not the same thing. Lack of raw speed can be compensated for with performance due to features and speed is not relevant unless it can be perceived. Our product is currently slow, and although this is not the highest priority, some work does need to be done in this area.

Compatibility

If claims of compatibility had not been made we would not have such a high standard to live up to. We would also have a much smaller potential market. Given that, it is important to erase any doubt that users may have regarding compatibility. Users need to know that anything they can do in AutoCAD can be done in IntelliCAD with the same results.

Improvements

We need to make a list of features and benefits that IntelliCAD has but AutoCAD does not. We don't need to worry about Autodesk using our list as blueprint for new AutoCAD features because they are on a two-year release cycle. Given that they just had a release it is going to be awhile before they have the opportunity to respond to any improvements that we make.

Value

Value can be real or perceived. Perceived value can be attained in the price of your product. Real value involves a complex formula of many variables (see Pricing below). Perceived value is desirable and necessary in order to sell product but unless it is accompanied by real value sales will decline.

Sales are currently an anathema to future product acceptance. We don't want to steal market share with a broken product, even if it is possible. We should probably discontinue sale of the product except to existing customers. At the very least we should not market this product until it is fixed, and sales of the competitive upgrade should be halted. Design Suite is a product that is at least six months too early: why put a defective product in the same box with an established product?

Once we have a stable product we need to market it in excess of when it was first introduced. We need press releases loudly proclaiming what we have accomplished. We need articles written for publication showing how to accomplish CAD tasks and develop solutions using IntelliCAD as a platform. We need to give people an incentive to try (or retry) our product. We need to focus on things that IntelliCAD can do that AutoCAD can't. We don't have to win a feature war, just a few battles.

Pricing

If someone on the street offered you a Rolex for \$50, what would you think? it's not a real Rolex! Although you might be tempted to buy it strictly on price, you realize that it will probably not bring you the years of gratification you would receive from buying the real thing. I believe that Visio is significantly underestimating the users willingness to pay for a product that is useful.

The CAD market is not a purely price-sensitive market. If it were Autodesk would not have been able to sell two million copies at \$3000+ a piece. Price-sensitivity is relative. When AutoCAD was first introduced it provided 80% of the features at a fraction of the price. At the time CAD systems cost several times more than the income of the people who operated them. Now the reverse is true: CAD systems cost a fraction of the income of the people who operate them. Offering a CAD package that is significantly less expensive than AutoCAD is not possible unless it offers comparable features.

Savings on cost of product - (Wage of user x Performance Differential x Lifetime of Product) must be greater than 0 in order to be a value

At the moment IntelliCAD does not offer a value when compared to AutoCAD. Currently the only reason for buying it is the entry price, not the long-term costs. We need to take advantage of those whose only consideration is entry price or those who will only use it occasionally, but we need to do it with a higher price so that we can justify making the changes that will make it a better product and thus be a real value.

By setting our price at 1/10 that of the competition we are sending a clear message that we do not have a comparable product. We need to take our product seriously. It is not a throwaway or a commodity. It is or should be a valuable tool used and relied on for important work. If we don't price our product comparably we are not only sacrificing dollars, but also sending the wrong message about what we think of our product.

IntelliCADs low price is likely the strongest reason that users have shelved the product until it gets better. If it cost them more they would have a bigger investment and would feel a greater obligation to stay with the product. Users who are really concerned about price are more likely to buy one copy of AutoCAD and use it on ten stations then they are to buy ten copies of IntelliCAD! We can appease existing users by offering them free upgrades and the ability to purchase as many copies as they want at the old price!

An alternative is to provide a base product much like Visio Standard and then offer a series of add-ons with improved functionality. Autodesk had a similar approach with AutoCAD where they had a limited feature product for \$1000 and offered Advanced Drafting Extensions I, II, and III for \$500 each. How about:

Basic IntelliCAD	\$349	
Edit package 1	\$100	(may include LISP)
Edit package 2	\$100	(may include rendering)
VBA	\$150	
ACIS Modeling	\$349	
SQL Database link	\$349	
	<hr/>	
	\$1097	Special! Buy all 6 for \$999!

If we want users to select Technical instead of IntelliCAD then Technical should be offered at a relative price-point that makes this attractive. In other words, a lower price. I believe that with a price of \$695 IntelliCAD sales would not be substantially different than they are now, even with its deficiencies.

Press Release dated June 17, 1997, "Visio Previews New Windows-Based CAD Application At A/E/C Systems '97": "*Visio anticipates that the suggested retail price for the final version will be \$695 U.S., with an average selling price of \$499.*"

From New CAD on the Block, Tony Zilles, Design Drawing Magazine: "*Unlicensed AutoCAD users will definitely move to IntelliCAD, if the cost of AutoCAD is the true reason they use unlicensed software. IntelliCAD is an opportunity to get legal software at the right price without the pain of changing file formats, relearning the interface and retaining the customization investment made over the years. In a corporate situation the cost of using unlicensed software far exceeds the short-term savings illegal software use might provide.*"

Investors

Investors want either of two things: immediate returns or long-term growth. Visio is not in a position to provide immediate returns and its long-term outlook is questionable in light of competition from Autodesk. Visio needs to make serious inroads on Autodesk's turf in order to be seen as having long-term potential. Autodesk's stock price has also suffered and it is likely that investors are waiting to see who will win the first battle. Although neither has been able to make any headway so far, I believe that investors will reward the one who shows the first sign of progress.

IntelliCAD as a Platform

Autodesk, Microsoft, and Visio gained market dominance by being platform companies.

Visio could take over the role of providing a CAD platform because Autodesk is starting to take over the role of third party developer with the release of its MAP, Mechanical Desktop, Architectural Desktop, and now Genius Software. This is no doubt alienating developers, the same developers who made Autodesk successful. We must be careful not to follow the same route. Providing general-purpose tools is not cost-effective for outside developers and yet that is exactly what we need. In order to encourage them to develop tools we have to provide assurances that we will not tread on their territory by subsequently removing the need for their product. We can do this by having a submittal and review process whereby they submit an idea and we decide whether it is in our interest to approve it as a core add-on. We could then offer to market it for them and guarantee that we will not develop a competing add-on for a certain length of time and not without evaluating the purchase of their technology.

We could make all developers much happier if we focused on the core functionality and APIs and let developers create the tools. We could even make source code for our APIs available to developers. If they want to extend or fix it they can, giving them a greater sense of control over their product. If we provided a more robust development environment instead of trying to provide end-user features we would essentially be hiring outside developers for free, because their products contribute to the sales of IntelliCAD.

Visio's concept of providing "a better way to draw" requires providing engineering solutions, not just drawing solutions. Engineering requires a great deal more knowledge to produce a product and a much higher level of quality assurance since more is dependent on the software than the user. The advantage to making a CAD product that only draws graphics primitives is that you only have to guarantee the accuracy of the database, not the accuracy of its decision-making.

Resources

Ron Prepchuk: "Do the resources exist to fix all priority 1-3 bugs?"

Peter Kron: "Realistically, no, we won't finish all the 1-3 bugs... I doubt will finish all the 2's."

More resources need to be allocated to IntelliCAD. It is imperative that the deficiencies in the product be fixed so that faith in the product can be restored. If users confidence is not gained IntelliCAD will die (has died?) as a product and it will affect the long-term success of the Visio product line as well.

Currently the majority of the resources allocated to IntelliCAD are dedicated to new features, not to fixing the almost 1700 active bugs. Although this may help sell a few copies of the product, I don't believe this will have the long-term effect we are looking for. IntelliCAD bugs are broken down like this:

<u>Severity</u>	<u>Qty</u>
1: Critical: Crash, Data Destroyed	25
2: Serious: Functionality Not Working	869
3: Moderate: Cosmetic, No Workaround	582
4: Minor: Cosmetic w/ Workaround	210

<u>Priority</u>	<u>Qty</u>
1: High: Must be fixed before next release	48
2: Medium: Fix as soon as possible	945
3: Low: Fix if there is time	477
4: Extremely Low: Not Likely to fix	217

These numbers are somewhat misleading. There are a great number of priority 2 and 3 bugs which should be categorized as Priority 1.

If VBA gets added to IntelliCAD at the expense of product fixes it will hinder acceptance of the product. The inclusion of VBA is not going to spur new sales. Is anyone really waiting for VBA to purchase IntelliCAD? People don't wait for the things they need. If someone has a need for something they will have already purchased the product that offers it. I believe that including VBA will significantly delay the release of IntelliCAD 2000. VBA is a feature that is beneficial mainly to developers, and developers need time to create applications. It is highly unlikely that there will be any third-party products utilizing VBA that will be released coincidental with IntelliCAD. As a result VBA could be added at a later date without affecting sales. I am not suggesting that VBA be excluded from the product, simply that it not be given priority over product fixes.

Resources can not be added at the expense of fixing the converter between AutoCAD and Visio Technical. IntelliCAD needs to be the bridge of the future but the DWG converter is the bridge of today. Theoretically, the converter should benefit IntelliCAD users as much as AutoCAD users, but it is much more important to grab AutoCAD users before they purchase Actrix. In the long run, however, Visio can not hope to provide "adjacent" seats unless it also provides the "main" seats. To do this Visio needs to have a CAD product.

IntelliCAD is a platform product, meaning that features can be easily added by anyone with the necessary experience. Core technology, on the other hand, can only be added in-house. What this means is that we can farm out add-ons to allow us to focus on what only we can fix.

If we add developers they will need to have CAD knowledge, ADS/SDS experience, and Visual C++. These developers are not easy to find or hire since they already have jobs, but we know where they are because they work for our clients. We can't hire them away without creating ill will but we should be able to arrange short-term relocation by contracting with their employers. Some of our major OEMs have capable staff and it is mutually beneficial to us and them to fix IntelliCAD. Their long-term viability is also dependent on beating Autodesk.

We also might be able to leverage the resources of the existing program team through the use of incentives and training. If the quality assurance team was given training in C++ they could examine problems in greater depth by looking at the source code. If they were able to find the source of the problem they could report it to development, saving the developer the time of researching it and allowing him to focus on fixing the problem.

Training

The IntelliCAD program team needs to have training on AutoCAD. Everyone on the team is lacking in one area or another but for the most part the knowledge does exist within the team. Individuals with the expertise should conduct training for those who are lacking so that everyone can understand what we are trying to accomplish and will be able to recognize when we get off track.

Sales people need to be trained on the needs of the CAD market and how to exploit it. They should have fundamental knowledge of CAD and of IntelliCADs benefits and limitations. At the very least the sales team should be made aware of the resources available to them to assist in selling the product.

Visio as a whole needs to be educated about the importance of CAD to the future of Visio. Competition with Autodesk may be a can of worms we wish we hadn't opened, but in reality we had no choice: we are both drawing companies who want to expand into each others market.

Summary

IntelliCAD can be a success, but even if it isn't it is at the very least R&D for a future product that is neither Visio Technical nor IntelliCAD. The lessons learned from IntelliCAD are invaluable to Visio as a whole. Does IntelliCAD need to be a marketing success? No! But it must be a critical success in order to instill confidence. Visio will not be able to win users with a sullied reputation. The consequences of ignoring IntelliCAD would be a dramatic impact on the future of Visio. Visio may want to ignore the "CAD" market but Autodesk is not ignoring the diagramming market. Our future is only as sure as the swiftness with which we act to meet the challenge.

