



Using nVista™ to Document Businesses in a Collaborative Environment

Abstract: *Most businesses lack a usable repository for data about assets, business processes, workflows, equipment configuration, and other critical elements of operational information. While such data usually exists within an enterprise, it is typically fragmented, out of date, or otherwise inaccessible to those who need it. In the best of times, lack of access to enterprise infrastructure data costs industry in excess of \$70 billion per year. But in the event of a disaster or other serious loss, the lack of comprehensive business documentation can lead to total business failure. By making critical information accessible in a Web-based collaborative workspace, businesses can make smarter decisions, ensure that institutional knowledge is not lost and intelligently manage the risk of business interruption.*

Introduction - The Case for Business Documentation

It is well known that effective IT and enterprise documentation is critical for the efficient operation of any organization. Nonetheless, most businesses operate without accurate, accessible information about their own systems, processes and infrastructure. The primary reasons - (1) the enormity of the data-collection effort causes documentation projects to be abandoned before they are completed and (2) the underlying enterprise information constantly changes, making it impossible to keep documentation current. Incomplete or out-of-date business documentation cannot serve its purpose and is typically shelved.

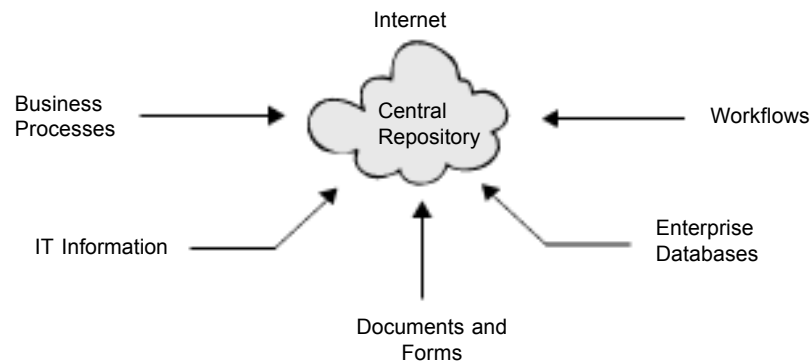
Good business documentation solves a simple and fundamental business problem - if mission-critical institutional information is decentralized, it cannot be used to its best advantage. For example, the precise steps required for tasks like fulfilling orders, procuring new equipment and processing new employees are often fully understood only by the few individuals who perform those tasks regularly. If those workers leave or require extended absences, enterprises suffer until others can learn the ropes. Even in the best of times, organizations simply cannot be wisely managed or efficiently run unless all stakeholders have easy access to complete, up-to-date enterprise information. But when serious problems cause business interruption, a centralized source of information about businesses processes, workflows and infrastructure becomes essential for disaster recovery and business continuity.

Getting a handle on an enterprise means more than simply having access to a single data source. Underlying any enterprise is a complex web of interrelated pieces of information ranging from procurement spreadsheets to workflows, business processes, documents, forms, network-configuration data, personnel information and more. Information is often stored in different types of repositories with different access interfaces that make browsing the data difficult and time-consuming. The more complex and wide-ranging the information, the more difficult it is for an enterprise to wisely make use of it.

Centralized information about
business processes, workflows
and infrastructure is essential
for disaster recovery, continuity
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To successfully weather significant business interruption, an enterprise must make its infrastructure information available to anyone who needs it and must allow all stakeholders to correct, improve or update the information, directly or indirectly. To do this, (1) disparate information must be consolidated in a central repository for viewing, (2) enterprise data must be presented in a graphical, easily understood way, (3) there must be a means for those within the enterprise to graphically mark-up and comment upon it, and (4) the comments must be viewable by others in real time. Because procedures, workflows and infrastructure information constantly change, allowing enterprise personnel to comment upon and it and work collaboratively is critical. Giving stakeholders a voice in the documentation means that it will always reflect current input from those who use it (who are also those who best understand these subsets of data). Making annotations and comments immediately available to everyone who browses the documentation also gives prompt feedback to stakeholders, encouraging them to participate in the ongoing documentation-maintenance process.

In a well-documented enterprise, business documentation is no longer a static, monolithic data repository, but is a team-built, living project that reflects all of the complexities and richness of a vibrant enterprise. A well-documented enterprise can accommodate personnel turnover and facility failures. And along the way, good documentation will also cut costs, reduce inefficient spending, preserve institutional knowledge and help companies do more with less.



A central, Web-based repository of enterprise information is essential for disaster recovery, business-continuity planning and dealing with the loss of key employees.

The Business Problem

Every business is made of assets and processes containing complex sets of interrelated information. In the context of IT networks, this may include what hardware and software is deployed, where it is physically located, how components are connected throughout the network, how much they cost and who is responsible for maintaining them. In the business context, it may involve interdepartmental workflows, enterprise databases, step-by-step instructions for internal procedures and standardized letters or forms.

To take full advantage of organizational data, this entire range of information must be available across an enterprise. In the real world, there is often a need for information that resides in ostensibly unrelated repositories. IT personnel who work primarily with hardware infrastructure may want to see the names and telephone numbers of the people whose network access is affected by system changes. HR personnel may need to see not only interview guidelines and employee-benefit information, but also floorplans showing which offices are empty and available for new employees.

In most businesses, information about assets, workflows, equipment configuration and the other elements of institutional knowledge are maintained in notebooks, on scraps of paper, in individuals' memories, or in other repositories not available to the enterprise at large. The absence of effective enterprise documentation can have an effect on many different aspects of a business:

Disaster Recovery/Business Continuity Planning - In the event of a major disaster, prompt impact mitigation and business resumption become critical. Not only must enterprises rebuild or temporarily replicate their entire infrastructure, but they must do so in the shortest possible time. Extended downtime means increased expenses, loss of customers and revenue, and the risk of breaching existing contracts to supply goods or services. Getting up and running quickly requires, among other things, that all stakeholders have access to the step-by-step workflows and business processes.

Even in the absence of a disaster, good business documentation is an absolute necessity. Employees with critical institutional knowledge take that knowledge with them when they leave unless it is documented.

Despite industry acknowledgement that comprehensive, accurate business documentation delivers a huge ROI, most businesses still do not have it. The problem - *maintaining* accurate documentation is too painful.

Help Desk/Tech Support - In the help-desk context, many studies have demonstrated that a huge unnecessary cost is borne by companies with outdated or non-existent IT documentation. Infonetics has found network downtime to cost the average large corporation (over 1,000 employees) \$32.7 million annually in lost productivity. The total cost of network downtime can range from \$300 per minute for a moderate-sized LAN to \$1,500 per minute for a catalog sales facility. Simply having accurate documentation has been found to decrease IT troubleshooting time by up to 50%, which results in a tremendous reduction in the amount of downtime and significant cost savings.

Asset Management - IT investments have become the single-largest capital expense for U.S.-based enterprises. Nonetheless, studies continually show that, as a rule, businesses do not have a good understanding of what IT assets they own. According to the Gartner Group, for many enterprises the IT equipment asset management process remains an intuitive one. One META Group study has estimated that lack of accurate asset information causes over \$66 billion to be wasted annually on purchases for unneeded and underused or unused hardware and software alone.

Why Existing Tools Don't Work

Despite industry acknowledgement that comprehensive business documentation is essential, most businesses still do not have it. The reason - if creating and maintaining accurate documentation is too painful, the people involved in the documentation process will abandon the effort. Existing documentation tools do not adequately address this simple and fundamental problem.

In the desktop or LAN environment, documentation often remains out of date or incomplete for many reasons -

- Desktop software comes with a learning curve – desktop versions of documentation software typically contain the program's full functionality. If a stakeholder has a simple change to make to enterprise documentation, he or she has to buy a license, install the program,

learn how to use it and effect the change. For a small modification, it is often easier to simply keep a mental note or a personal file. The result - much of an enterprise's valuable information exists only in the minds or on the desks of workers scattered across the enterprise while the centrally-available documentation gets progressively less accurate.

- Software deployment, maintenance and update problems – even if documentation projects are centrally maintained on a LAN, licensing usually requires the program to be installed separately on desktop machines. Users must be concerned about which version of the software is the most current, whether the version on the desktops matches the one on the server, whether employees who will be using and/or editing the documentation have installed the software in the first place and where on the LAN the enterprise documentation files exist.
- Bias toward making software available only to management – documentation software is typically made available only to those with management responsibilities, thereby taking away the power to document from those who have the most to contribute.
- Disconnect between desktop users and data sources – very few organizations develop their database infrastructure with meta-data approaches. As a result, data sources are structured to be accessed by separate departments for separate purposes. For enterprises that have good collections of information from which to start a documentation project, the data is often distributed in a variety of repositories to which stakeholders have no access. Other types of data are collected in unstructured data formats like word-processor text, e-mail, and paper-based repositories.

nVista delivers information to your employees in a graphical, intuitive format. By allowing stakeholders to annotate and mark up enterprise diagrams directly from a Web browser, nVista gives everyone in your organization the power to provide valuable input.

Existing Web-based applications present additional impediments to the maintenance of accurate business documentation. Many vendors provide costly and complex software that purports to store and manage “business intelligence” as a component of CRM or ERP, but they often attempt to create software that can be all things to all people. The result – an enormous implementation cost and steep learning curves. Businesses must often rearchitect their data, modify their business processes and divert immense amounts of precious resources just to set up and use these tools. If the vendor goes out of business or alters its development direction, the customer must often make the painful decision of whether to start over with a new enterprise vendor or do the best it can with what software has already been installed.

Using nVista to Preserve Institutional Knowledge

nVista was designed to do one thing well – create enterprise documentation that is easy to access and that encourages participation by all of an enterprise's stakeholders. The philosophy behind nVista is that building effective enterprise documentation is best accomplished by creating a repository for data that already exists rather than generating new data. This approach is borne out by a META Group study concluding that half of the surveyed companies had no data on how their software had changed in the past year in terms of

upgrades or new purchases. Using the same survey results, we would suggest a different conclusion. In fact, the subject companies *did* have complete information about software changes. That information resided in the collective institutional knowledge of corporate stakeholders – the employees. Each worker knew how his or her software had changed in the past year, there was just no useful central repository for this information. The real problem detected by the META Group study was that the surveyed companies had no effective way to share the knowledge that already existed. nVista allows you to take advantage of this valuable information by allowing stakeholders to add it to enterprise diagrams right from their browsers.

Gathering information and making it available across an organization only solves part of the problem. The remaining challenge is how to keep documentation current over time. This problem is not one that can be solved simply by installing more complex and expensive software. Rather, the solution must be one that addresses the very human elements of the problem, namely that if maintaining documentation is too difficult or time-consuming, the enterprise will simply stop its efforts to match up the documentation with current information.

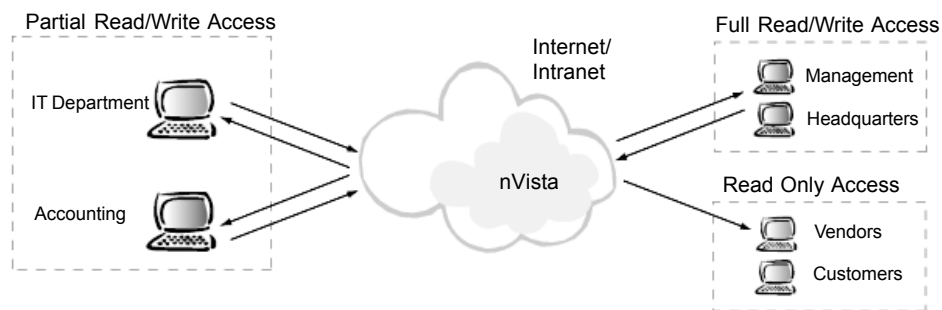
nVista collects and delivers enterprise information to your employees in a graphical, intuitive format. By allowing stakeholders to annotate and mark up enterprise diagrams directly from a Web browser, nVista makes it easy for everyone in your organization to provide valuable input. This allows changes and modifications to be communicated to the enterprise in real time without losing the ability to control changes to the data underlying the documentation. The result, “self-sustaining” documentation that never goes out of date, encourages employee participation and minimizes the unnecessary costs associated with incomplete or inaccurate business documentation.

nVista Product Information

With nVista, enterprises can publish data-rich, hierarchical, multi-diagram projects to the Web and selectively make them accessible to organizational personnel. Web-published nVista diagrams aren't simple drawings; they're full of data. That means browsers can:

- Drill down through complex hierarchies – explore vertical relationships by drilling down on objects right from your browser. Go from a high-level world view to a port on a hub in a wiring closet in seconds. Easily navigate from an overview of workflows or processes to step-by-step instructions explaining how to accomplish specific tasks. nVista even embeds documents, spreadsheets and forms, so you can download or print them right from a browser.
- Perform data searches – nVista published projects are driven by underlying data. That means you can do searches right from your browser. Do a search by type to find all objects of a specific type or by data value to find all of the objects of any type that contain the data values or text set in your search parameters.
- Traverse links – nVista keeps track of relationships between objects, so you can see how things are connected throughout vast systems.
- See data graphically – All of our objects are data-embedded. That means you get information about your enterprise when you need it. Just select an object and you'll see all of the information associated with it.
- Collaborate - nVista encourages enterprise participation in keeping documentation current by allowing stakeholders to annotate diagrams in different ways right from their browser screen. All annotations are immediately visible to anyone viewing the diagram. A “pen” tool allows viewers to draw freehand on diagrams with a variety of line colors and thicknesses. Graphical annotations can also be made by choosing from a palette of pre-made shapes. Browsers can leave text notes just by clicking on the “note” icon, typing comments and dropping the note anywhere on the diagram. Other browsers can open it and respond. nVista records each author's identity and maintains all text annotations in chronological order so that viewers can follow the communication thread of any text-based communications.

- Use it without any training. Complex information is easier to grasp when it is presented graphically. nVista uses a variety of data-visualization to merge graphics and data into a “visual database” that is easily understood by everyone in your enterprise. nVista integrates completely with Microsoft IE by adding a toolbar to the IE screen. nVista was specifically designed with an easy user interface so that your employees can get up and running in the shortest possible time.
- Zoom - nVista delivers stunning 2D graphics and 3D models directly to the browser screen. Users can quickly zoom in on 2D diagrams with no loss of graphic quality, regardless of the complexity of diagram graphics. 3D data models can be rotated on any axis or navigated by simply clicking and dragging.
- Control Access to Enterprise Information. Anyone publishing a project to nVista can choose individuals or groups to have varying degrees of access to all or part of project data. Of those who do have access to a given project, access levels range from read only, to read and annotate, data editing rights and delete/republish ability.



Integrated controls allow selective access to sensitive information

Conclusion

In order to maximize productivity, avoid inefficient spending and prepare for disaster recovery and the loss of key employees, organizations must have a handle on their systems and infrastructure data, including IT networks, workflows and business processes. To meaningfully portray such multi-dimensional systems and provide access to stakeholders, information from diverse sources must be consolidated in a single, easy-to-use repository. In addition, to ensure that enterprise system documentation remains up to date, there must be a way for employees to provide real-time input.

nVista allows businesses to store hierarchical, data-rich graphical depictions of business systems in a centralized, Web-based repository that can be accessed as needed across an enterprise. nVista also facilitates online brainstorming among distant associates. The result - improved communication and a comprehensive repository of mission-critical enterprise data. Such an information infrastructure can then become the basis from which an organization leverages institutional knowledge, takes full advantage of all of its resources, and recovers quickly from disaster or other significant business interruption.