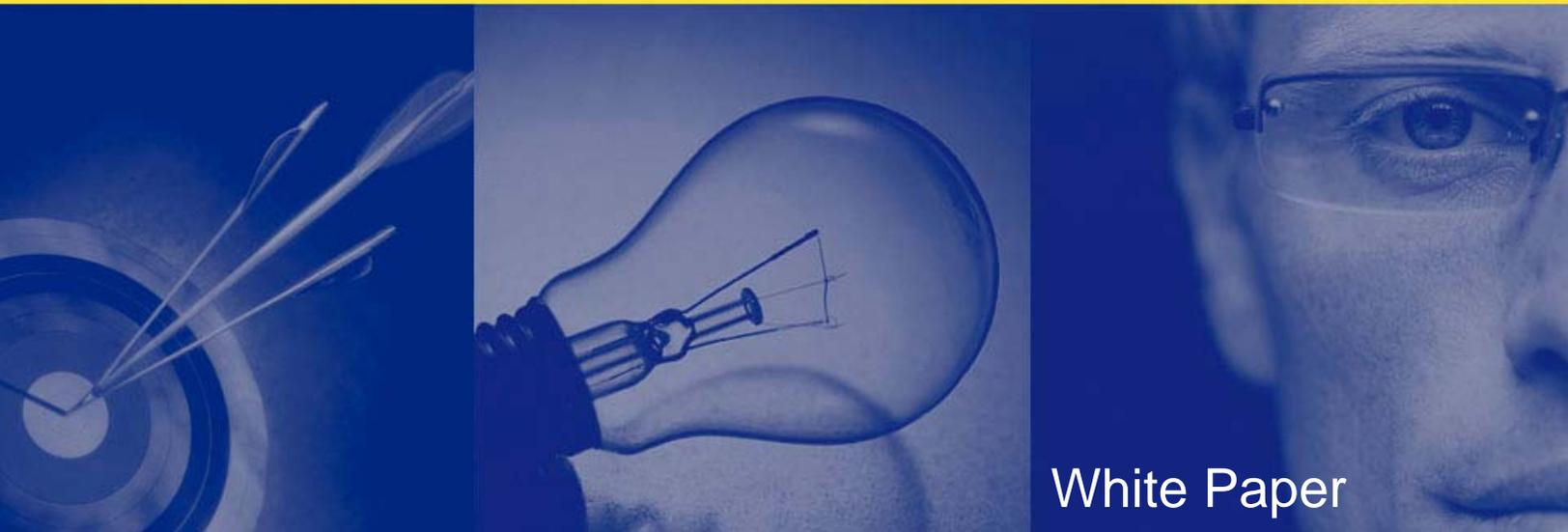


Tenets of Identity Management

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White Paper

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INTRODUCTION

The year was 1986. My first identity management project was building automated user provisioning software for the IBM VM/CMS mainframe at a Canadian university—my very first employer. Its purpose was to automate the creation of accounts on the mainframe. Funny thing was that the terms *identity management* and *provisioning* were not yet “invented”—at least not in the contexts that we know them today. If identity management had been an industry-wide phenomenon, I might have realized that I should have been more concerned about automating the de-provisioning of those accounts. However, that wasn't on my mind.

Later in my career, I was fortunate to be involved in the selection of a network operating system for my company's PCs. We chose Banyan VINES. The year was 1989. The company I worked for was part of an extensive network of research organizations that were networked via SMTP and X.400 mail over the Internet. With that came the problems of synchronizing e-mail names and addresses between these various systems. I learned a lot about “directory synchronization” and was first introduced to a prominent Banyan VINES software vendor called ZoomIT Corporation and its Vice-President of Engineering, Kim Cameron¹. I liked ZoomIT's software so much that I joined the company in 1993 and, over the years, worked with many great customers to build the world's first commercial metadirectory product, ZoomIT VIA. But all good things must come to an end. In 1999, Microsoft acquired ZoomIT and many of us went to work for Microsoft in Redmond, Wash. While at Microsoft, I was involved in product management for Active Directory, Active Directory Application Mode, and the third generation the ZoomIT VIA product, Microsoft Identity Integration Server. After five years, I left Microsoft to join Vintela, which specialized in extending core Microsoft infrastructure technologies—such as Active Directory (AD), Microsoft Operations Manager (MOM), and Systems Management Server (SMS)—to Unix and Linux. When Quest Software acquired Vintela in 2005, I moved to Quest to run product management for all Active Directory and Windows-related products.

After talking with literally thousands of customers over the years, I decided to try to capture some of the key tenets² that have been bouncing around in my brain. I dust these off whenever I talk to a customer about identity management.

¹ *Kim Cameron is currently the Architect, Identity and Access Management at Microsoft Corporation and he's having a lot of fun at it, too.*

² *Tenets: An opinion, doctrine, or principle held as being true by a person—as defined at dictionary.com*

TENETS OF IDENTITY MANAGEMENT

1. Identity Management—Everyone Defines It Differently



The first thing you should recognize, if you haven't already, is that the term identity management is very overloaded. If you ask 10 people to define it, you will get more than 12 definitions guaranteed. One of your most critical tasks is to clearly define what identity management means to your company within the context of what you are trying to accomplish.

After you have done so, you must get buy-in from your colleagues, and more importantly, your sponsors and management. Rest assured someone will believe that single sign-on, password synchronization or provisioning of office furniture will be part of your project if you don't define **and** announce what identity management *is!*

Here's an example of a definition from an identity management vendor: "Oracle Identity Management allows enterprises to manage end-to-end lifecycle of user identities across all enterprise resources both within and beyond the firewall. You can now deploy applications faster, apply the most granular protection to enterprise resources, automatically eliminate latent access privileges, and much more."³

What worries me about this definition is the *"and much more"* phrase. In no time one of your senior executives will decide what that means and you will be traveling the corporate road to perdition⁴.

In the spirit of fair play, here's another example: "Novell Identity Manager is an identity management solution that automates user provisioning and password management throughout the user lifecycle—delivering first-day access to new users, modifying or rescinding access as necessary across all systems, and synchronizing multiple passwords into a single, strong password."⁵

Notice any differences? Oracle's definition implies that they can handle *"resources both within and beyond the firewall"*. Novell's definition doesn't seem to address identity management beyond the firewall but it synchronizes multiple passwords into a *"single, strong password"*. If you look further,

³ Dec. 9, 2006 - http://www.oracle.com/technology/products/id_mgmt/index.html.

⁴ Perdition—a state of punishment which goes on forever.

⁵ Dec. 9, 2006 - <http://www.novell.com/products/identitymanager/>



you'll see that the definitions that BMC, Computer Associates, IBM and Microsoft use are all different in both subtle and not-so-subtle ways.

You have identified a problem in your company and you have concluded that the problem is related to what the industry is calling identity management. You must clearly define in your project documents exactly what identity management means within the scope of your problem and proposed solution. If nothing else, this will help to prevent scope "creep" and will serve to ensure success once you've completed your work.



2. KISS—Simpler is Always Better

The main reason most companies get involved in an identity management project is that their environment has gotten complex beyond their ability to control it either by manual or automated processes. You need to avoid the easy way out: simply automating what you currently have. While this may temporarily solve your problem, the end result will be an inefficient, but automated set of identity processes. Because they're inefficient, these processes will probably break down at the most inopportune times. Or, when they break down, the effect will be noticed by senior executives at your company.

It is crucial to put all aspects of your identity management project and associated business processes under a magnifying glass. Always ask whether it is possible to simplify a process or to re-use a particular process in another part of your project.

An easy way to illustrate this is to examine where provisioning actually begins in your company. In most cases, once a decision to hire or retire an employee is made, it is typically the human resources department that begins the process. How does your provisioning software find out about the event? Hopefully, it is notified in real time. If not, it probably finds out by some sort of file transfer to a specific network directory where it then polls the directory looking for the file, and then acts on it. While both methods achieve the same result, the simpler method is for the provisioning software to be notified in real time of the event. A real-time update means faster provisioning (increased productivity) and de-provisioning (increased security) of the employee data occurs without additional moving parts. Provisioning via a file transfer makes you rely on the success of the transfer, the availability of the network location and your ability to handle all the errors to ensure that everything works properly. I can't count the number of times a piece of code has failed and the result was that hundreds of accounts were accidentally deleted. Of course, Murphy's Law will always ensure that a number of high-level executives are included in those deleted accounts.

Keep it as simple as possible. You'll receive fewer late-night and weekend phone calls.



3. Stop Taking Aspirin—Eliminate the Cause of the Headache

Sometimes you can't see the forest for the trees. In organizations, this is often a problem. A company will be implementing an identity management project and, like most companies, it will have multiple LDAP-based directories that require synchronization—at least that's what the company believes the solution to its problem is. My questions are always the same: What is the purpose of these directories? Why is there more than one? Why are they from different vendors? Once you start looking at the details, you usually discover that the company can consolidate one or more of those directories and *eliminate* the need to synchronize others. That's solving the problem. It's also making the environment simpler. Don't get me wrong; I'm not saying you can consolidate all your directories into one, but I'm willing to bet you can eliminate a few of them. The fewer moving parts you have, the better—it simplifies your environment.

Additionally, think of the benefit across other departments in your company. If you can, consolidate around one vendor's directory. Or, eliminate one vendor's directory software entirely. By doing this, you eliminate the need to maintain additional licenses or track those licenses. Your operations people will thank you because they can toss the operational aspects of monitoring and backing up that directory or system. Everyone wins.



4. Success Lies With Your End Users, Partners and Customers

Identity management projects tend to be both time- and resource-intensive, which means they will probably be costly. At the end of the day, your success is going to depend on your end users, partners or customers seeing the benefit of the projects. If the end result is simply saving some administrative time within the IT department, you won't really be successful. Your work should be highly leveraged: every employee, partner or customer of your company should see the benefits of your work. They don't have to say, "Wow, that identity management stuff is the cat's meow!" However, you do want them talking about how their day-to-day activities have been simplified by self-service password management or automated role management. The more people who feel the positive influence of your project, the more successful your project will be.



5. Concentrate on Immediate and Near-Term ROI Benefits

Too many identity management projects have failed because they took too long to deliver benefits or the benefits they delivered weren't leveraged. It is key that you prioritize delivering significant end-user benefits as quickly as possible so you can show immediate progress and benefit to your management. Determine which part of your project will benefit your end-user population the most and implement that first. Not only will your company start seeing immediate return-on-investment (ROI), but the projects (and you) will be seen as "on the road to success". This will help eliminate or alleviate both political and funding issues.

Generally, the best area to concentrate on for immediate or near-term ROI is self service. Self service can be highly leveraged if you can significantly reduce or eliminate some of the end-user pains and the associated help desk costs regarding password management, password reset, group management or identity data updates (e.g., mobile phone number and work address). Another area to consider that is not as leveraged but is highly valuable is regulatory (e.g., SOX, GLB, HIPAA⁶) compliance reporting. If your identity management project can provide specific regulatory reports that are more comprehensive or delivered faster than before, your company can benefit significantly. This will also provide great exposure to, and support of, your senior executives.

⁶ Sarbanes-Oxley, Gramm-Leach-Bliley Act, and Health Insurance Portability and Accountability Act.



6. Beware of YAD or YA Anything

You will probably be talking to many identity management vendors as part of your purchasing process either in the request for information (RFI) or request for proposal (RFP) phase of your project. Beware of any vendor that requires you to purchase yet another directory (YAD) or yet another (YA) anything. Remember, a complicated environment with many moving parts is what got you here in the first place. If a vendor says you need to purchase its directory or a component that you already have from another vendor, start asking some serious questions. If you are being asked to purchase another directory, ask why. Ask whether and how other directories will be consolidated through that purchase. If consolidation is not occurring, you will be left with synchronizing yet another directory, which means more moving parts and that you aren't simplifying. Be very careful about adding additional infrastructure. You may end up being forced into an additional directory but be sure you clearly understand the reasons and any alternatives or trade-offs.

The same is true for other components. If you are happy with your reporting system, but are being asked to replace it, exercise caution. Consolidation means reducing the number of moving parts, not replacing them one for one. Make sure that you are getting additional benefit and you are reducing the number of products and tools in use as much as possible.



7. Be an Agent of Change— Internally and with Your Suppliers

Identity management is something that must be built into every project, whether internal or external. That means the people who develop in-house custom applications for you must understand what identity management is conceptually, and how your company is implementing it from a practical perspective. You want your developers to be leveraging that consolidated infrastructure, not building yet another repository of identity data.

The same goes for your suppliers and partners. Be clear that you expect their software to work within your identity management paradigm. You may not be 100-percent successful with your suppliers and partners, but you need to insist that identity management be part of their solutions. If more of us do this, we will see more independent software vendors (ISVs) start to support external directories or application programming interfaces (APIs) for authentication and authorization rather than requiring their own.



8. Have Clear Metrics to Measure Success

This is so important. The last thing you want is to have an executive say, "So what?" about your project. Have a set of very clear metrics that you can apply and report on as part of the justification for your project, and as a way to show your success. All too often, this aspect of an identity management project is either left out or is based on "soft" savings.

Some of the metrics that tend to get the attention of executives and bean counters are:

1. *Reduction in number of help desk calls.* This is a good metric especially if your help desk is outsourced or staffed by contractors. It will result in hard-dollar savings because with fewer help desk calls, you will need less help desk staff and lower your per incident costs.
2. *Improved security.* If you can report on pre- and post-implementation times to de-provision a user from your human resource (HR) system(s), you can claim you are increasing security. This is not a hard-dollar savings, but it is extremely important to your executive team, board of directors and CISO for both regulatory compliance and general security reasons.
3. *Improved productivity.* Most executives will be indifferent if you tell them you are going to improve productivity by 10 minutes a day per user in your company. If you aren't directly saving the company money, you'll probably get the dreaded "So what?" comment. Do you have any contractors working for you? If you do, you can turn this into real hard-dollar savings by measuring the time it takes for contractors to access all the systems they need to do their jobs both pre- and post-project implementation. Those contractors are idle while they wait for their access. If you can provision them faster, you can show a substantial savings. The more contract staff you have, the bigger this savings will be.



9. Beware of Vendor ROI, TCO and Other Trappings

Face it—vendors have one goal in mind: to convince you to adopt their solution. They will provide you with ROI and total cost of ownership (TCO) spreadsheets that promise attractive savings. Take these with a grain of salt. Can these reports be used as baselines where savings and ROI might come from? Absolutely. They may also give you new ideas for where you can find savings. But the key is to use these as *guidelines*. The real value of such analysis will come as you implement these tools to solve an issue in your unique situation and your unique environment.

Another area for caution concerns third-party promotional material. In many cases, companies have paid for product reviews or have ensured that the business scenarios in which their products are reviewed will illuminate their products in the best possible light. When industry analysts write papers about market segments such as identity management, they have their own prejudices, angles and chests to thump, notwithstanding the fact that every software company has a room full of people whose job it is to influence those analysts. Again, exercise caution and take everything with a grain of salt.

I have always advised both a top-down and bottom-up approach to choosing vendors. A top-down approach is gathering research from the Web, industry analysts and trade magazines (for example, *eWeek*, *CIO Magazine*, *Network Computing*, *Network World*). This will provide good information and general guidance, but keep in mind what I said earlier. A bottom-up approach involves reading the vendor's Web site and product literature, and testing its product in your lab using **your** business scenarios and use cases. Remember, your mileage will vary.



10. Be Informed—Check References, Talk to Other Companies

Another aspect of bottom-up research will be talking to other companies that are facing similar problems. This is important for two reasons. The first is that they might have encountered something that you didn't think about, or perhaps they came up with an interesting solution that you weren't aware of. The second is to do reference checks to support a specific solution. This is very important when you are making your vendor choice. Here are some things to remember when you are doing reference checks.

- Is the company using the product you are thinking about purchasing?

This may sound like an obvious question but I have seen vendors give a reference and the reference was using **one** of their products with glowing results, but it wasn't **the** product the company was thinking about purchasing! Make sure you are comparing apples to apples.

- Has the company actually deployed the product? Is it using the product? For how long?

This also may sound like an obvious question but there is a big difference between simply purchasing a product and having it deployed and operational over an extended period of time. Maybe the product is too services-intensive and it hasn't been put into operation yet? This happens frequently. Or perhaps the product doesn't actually do what it says it does. This also happens frequently. You'd be surprised at the number of customers who actually purchase a solution based only on a salesperson's presentation. Would you purchase a car based solely on the information in a few brochures? I bet you wouldn't.

- What feedback does the company have about the vendor's stated commitment on the after-purchase services, support and maintenance?

You need to determine if the vendor is going to be a partner, or if you are simply going to be a customer. You want to work with a vendor that is going to fully support you as you get the product deployed and in production. You also want to ensure that post-production support and maintenance are first rate. Questions worth asking: How have you requested product enhancements? Do you know who the product manager is? Have you talked to the product manager? Does the vendor have a customer advisory board or council? Is there a user group? How do you become a partner with your vendor?

- What are the vendor's development plans and product timelines?

Ask for them, but don't believe them. At least, don't believe the dates. Apply the Wosinski co-efficient⁷ to all dates. Be highly suspicious if the features you want or need are scheduled for delivery too far out on the timeline. Do you want to see the salesperson's hair catch on fire? Just ask him or her to tie performance or delivery of features to payment. It's worth pushing for this just to see the ensuing spectacle!

- What kind of vendor are you dealing with? Is it small, a start-up, venture capital-funded or a publicly traded company? If it's a small company, what happens to your contracts if in an acquisition?

Sometimes it's better to work with small company because your money means more to them. You can have greater influence on product direction. But with small companies, resources may be an issue. Will they have the consultants, the partners or the ecosystem to support you? Will they be around in five to 10 years? Larger companies typically have a bigger ecosystem, more industry partnerships and more people to work with. However, it may be more difficult to get product enhancements from them. Either way, it's a trade-off, but also a decision you consciously make.

Carefully check references. Develop a good set of questions. Make sure the customers you contact haven't been *incented* as references. Be sure that you are forming a partnership that will last once the check has cleared the bank. And, whatever you do, count on a changing vendor environment⁸.

⁷ *Wosinski co-efficient: If a vendor (or engineer) promises a feature or product in x weeks, expect it in x months; in x months, expect it in x years. Coined by one of the best sales people I ever worked with at ZoomIT—Art Wosinski.*

⁸ *Over the last five years, almost every single major identity management vendor has acquired smaller, niche players in this marketplace. This is a trend that is expected to continue, so plan accordingly.*



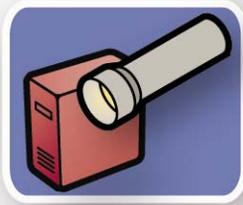
11. Proof of Concept? Isn't the Sales Presentation Enough?

It certainly is not! When I was selling identity management products at ZoomIT, there were a number of things that customers would ask me that I hated to hear. One of them was the dreaded, "Can you do a proof of concept?"

Sometimes, it would come out as, "We want all the short-listed vendors to do a proof of concept". Even though the requests made **me** shudder, **you** should not move forward on an identity management project without asking vendors to do a proof of concept (POC) statement. Vendors may push back and ask you to pay for it, but don't back down. They should either absorb the cost of a POC statement as part of their pre-sales expenses or, at a bare minimum, offer you 100 percent credit for anything you spend on the POC statement. Remember what I said earlier about partnering. If vendors don't want to do a POC statement or are forcing you to pay for it without any credit, then are they really interested in partnering with you?

Here are some points about POCs:

- Visiting the vendor's lab to see the software work is not a POC; that's called a demonstration! A POC has to be done in your environment, not theirs.
- Assemble your most important (or all!) scenarios and use them as the basis for the POC. Don't make a decision to purchase by only seeing 10 to 40 percent of the functionality you need proven.
- Stress test any system by simulating a full load of events or all of your users. Many systems work great but fall apart when they are stressed. Make sure you don't find out about this after you've purchased the product.
- Don't forget your network infrastructure! Most organizations have varying networking environments, which might include: satellite or slow links between sites, intermittent connectivity, varying topologies, communications with mainframes, and any number of other weird networking factors. Don't forget about these in your POC. Most software assumes gigabit, continuous, no-lag connectivity everywhere!



12. Don't Forget the Monitoring and Operational Requirements!

I've seen countless organizations forget this. It's a check-box in the RFP and is extremely important!

In many larger enterprises, one group manages the operations of production infrastructure components. Typically, this group is involved in some way with the purchase of infrastructure products. The group can influence how the company will monitor and handle the day-to-day operations of software that's acquired. However, in many smaller companies, such a group either doesn't exist or it isn't involved in the software acquisition. This is not a trivial requirement. If you've done a proper POC (see previous tenet), you know at least whether a vendor's products can handle your environment. But, if something happens and things start to fall apart, will you have advance warning? If so, how? From an operational perspective, will you have the tools to diagnose problems or will every hiccup lead to a call to the vendor's support hotline?

Have you already deployed a monitoring product? If so, will your identity management product integrate with your monitoring package? If not, does it have built-in monitoring? While built-in monitoring is better than no monitoring, your operations staff really shouldn't have to monitor yet another console.

Day-to-day operational requirements are also something to examine closely. How do you back up the solution? How do you perform full and partial restores? Does the product require a database back-end? If so, is that database one of the standards within your organization? If MySQL is not one of your company standards and your identity management software requires MySQL, you are going to be forced to adopt new operational procedures. The same goes for programming languages and interfaces. One European identity management vendor's programming interface is limited to TQL. TQL may be the best programming language to use, but how many developers know TQL? If you choose this system, you will be paying expensive consulting rates for implementing and customizing your project.

IT'S A JOURNEY—NOT A DESTINATION

"Those who cannot remember the past are condemned to repeat it."⁹

Someone on your team is responsible for the identity management project timeline. This timeline dictates that, on a certain date, the project will be done. The problem is that the project will never be done. Period.

If your identity management project actually does end, then you, or your successor, will likely be starting a new one within 10 years. Why? Because all of the same mistakes will occur all over again. Internal developers will begin building new applications with their own authentication and authorization stores without thinking to re-use the existing corporate identity stores. Or, someone will purchase new enterprise applications without thinking about identity and whether the application support industry standards; thus, more synchronization will be necessary.

Kicking off—and finishing—an identity management project is simply one point in the continuum of your company's life. Identity management needs to continue for as long as the company exists. You need to set standards, and build guidance and awareness across the company about your identity management strategy, the problems it solves and its business benefits. The project may conclude, but the problems never cease.

"The woods are lovely, dark and deep, but I have promises to keep, and miles to go before I sleep."¹⁰ Congratulations on finishing your project, but don't even think of going to sleep!

⁹ *George Santayana*

¹⁰ *Robert Frost*

SELECTED RESOURCES AND REFERENCES

Quest Software

http://www.quest.com/identity_management

Jackson Shaw's Blog

<http://jacksonshaw.blogspot.com>

Kim Cameron's Identity Blog

<http://www.identityblog.com>

The Burton Group

One of the best analyst and consulting firms in the field of Identity Management. Be sure to check out its annual Catalyst Conference.

http://www.burtongroup.com/coverage_areas/identity_management.asp

Gartner

Another great analyst firm that holds an annual Identity Management conference, which I highly recommend.

<http://www.gartner.com>

DigitalID World

<http://www.digitalidworld.com>

ABOUT THE AUTHOR

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Senior Director, Product Management – Active Directory,
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Jackson Shaw joined Quest Software as part of its acquisition of Vintela. Shaw oversees product direction, strategy, and go-to-market activities for all Active Directory and multi-platform integration products.

With more than 15 years of experience, Shaw was a key member of the identity and access management marketing team for the Windows server marketing group at Microsoft. He was responsible for product planning and marketing for Microsoft's identity and access management products, including Active Directory and Microsoft Identity Integration Server (MIIS) 2003.

Before joining Microsoft in 1999, Shaw served as vice president of sales for Toronto-based ZoomIT Corp., a pioneer in the development of meta-directory products. He was also a member of the management team that successfully oversaw the company's acquisition by Microsoft in 1999.

Before joining ZoomIT, Shaw held IT management roles at the International Development Research Centre, a Canadian corporation created to help developing countries find long-term solutions to social, economic, and environmental problems.

Shaw has been involved in directory, meta-directory, and security initiatives since 1988. He studied computer science and management information systems at the University of Ottawa. He is a member of the Association for Computing Machinery.

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Quest Software, Inc. delivers innovative products that help organizations get more performance and productivity from their applications, databases and Windows infrastructure. Through a deep expertise in IT operations and a continued focus on what works best, Quest helps more than 50,000 customers worldwide meet higher expectations for enterprise IT. Quest Software can be found in offices around the globe and at www.quest.com.

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- Download patches and upgrades.
- Seek help from a Support engineer.
- Log and update your case, and check its status.

View the ***Global Support Guide*** for a detailed explanation of support programs, online services, contact information, and policy and procedures. The guide is available at: http://support.quest.com/pdfs/Global_Support_Guide.pdf