Veritas
Storage Foundation™

Symantec™

Usability Study
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Contents

Executive Summary

This project is part of an effort to improve the installation documentation for Symantec's Storage Foundation product suite by making the documentation leaner and more suited to customer use cases. Storage Foundation is a software product that provides a set of integrated tools to help enterprises centrally manage explosive data growth, maximize storage hardware investments, provide data protection and adapt to changing business requirements.

The Storage Foundation documentation set includes over twenty manuals for the installation features alone. Many of those PDFs are 500+ pages long, and the installation-related instructions are not easily searchable online.

The project involved working with the Information Development, Support, and Product Management groups at Symantec's office in Mountain View, California. These teams develop, deploy, and support Storage Foundation and other Symantec enterprise offerings.

The first phase of the project was a set of in-depth interviews. The Information Development team interviewed 12 Symantec employees in the Support and Product Management groups who work directly with customers.

After the first phase of the project, information developers created a mockup of a lean installation document, and performed user testing on the mockup in the second phase.

For more information on the rationale for testing users and creating shorter, use case-based documentation, see the section *Literature Related to Lean Documentation* below. The rest of this document provides information about the methods, findings, and recommendations for the two phases of this project.

Literature Related to Lean Documentation

Creating leaner documentation is counter to the idea some organizations have that more documentation is better. In her book *Content Strategy for the Web*, noted author and former Facebook content strategist Kristina Halvorson put it this way:

> *It seems that, in many organizations, more content is perceived as more selling opportunities, more user engagement, more help, more everything. But that's rarely the case. Generally speaking, content is more or less worthless unless it…supports a key business objective (or) fulfills users' needs* (Halvorson, p. 6).

To create documentation that is worth reading, we need to understand our target audience. Dr. Ginny Redish states the following in her book *Letting go of the Words*:

> *You can start to understand your audiences by thinking about them. But that's not enough. To really understand who they are, why they come, what they need, and how to write…content for them, you have to know them and their realities* (Redish, p. 13).

There are many different approaches to user experience testing. The following books provide some insights as to how we might learn more about our target audiences:

- One way to understand our audience is to observe, listen to, and talk with users. In the book *User and Task Analysis for Interface Design*, authors Hackos and Redish describe this process: *You can learn most by actually being with users: watching them work; listening to users explain what they are doing as they work, interjecting questions to elicit even more from users about themselves, the work, and the environment* (Hackos and Redish, p. 130).
- In *Handbook of Usability Testing*, Rubin and Chisnell talk about rectifying product deficiencies and designing to delight the user: *The overall goal of usability testing is to inform design by gathering data from which to identify and rectify usability deficiencies existing in products and their accompanying support materials prior to release…to ensure…that (the products) are useful…easy to learn, help people be…efficient at what they want to do, (and) are satisfying (and possibly even delightful) to use (Rubin and Chisnell, p. 22).*
- In her book *The Insider's Guide to Technical Writing*, Krista Van Laan discusses task analysis: *Writing for any user involves task analysis, as you determine what tasks you users need to perform, and what steps enable them to complete those tasks…"What is the user's goal?" should be your main question. Once you answer it, you know where to go from there (Van Laan, p. 75).*
- In *The Web Content Strategist's Bible*, Richard Sheffield writes about defining the user's context. *How is the information relevant to what the user is doing? …Users have different criteria for what relevant…information might be. This is often referred to as the user's context… (Sheffield, p. 24).*

In his 2010 conference presentation *Knowledge Integration: The Future of Technical Communications*, Tristan Bishop recommends that information developers partner with other teams in their organization: *A knowledge integrator will partner with other teams across the organization to gather content that can proactively solve customer issues, reducing the number of support calls* (Bishop, slide 24). Bishop encourages technical writers to "build close relationships" with developers, quality assurance personnel, and technical support engineers (Bishop, slide 29).

Mike Kuniavvsky describes how the user research adds value to the product development process in *Observing the User Experience*:

> The job of the user experience researcher is to provide insight into the product's users, their perspectives, and their abilities to the right people at the right time. The researcher is in a unique position to draw all this information—and all these information needs—together and have it make sense, making the entire development process more streamlined and effective (Kuniavski, page 53).

Phase I Interviews

This section builds on the theories from the previous section and shows how the theories were put into practice in this project.

Method

Information developers created an interview script that included a participant briefing, and several open-ended questions. Information developers used the script to conduct the interviews.

The interviews took place in 12 individual one-hour sessions over seven testing days. The interviews took place during work hours on weekday slots between October 13 and November 16, 2012. The interviews with product managers took place over the phone, and the technical support interviews took place either in the participant's cubicle, or in a conference room (as the participant's preferred). At the end of the interviews, information developers asked participants to comment on a table of contents for a proposed, leaner set of installation instructions.

 Information developers took notes during the interviews, transcribed the notes, and identified trends. The trends were codified in terms of the numbers of participants who expressed similar ideas, and the results are shown in the *Findings* section below.

Goals

This exploratory research sought to answer questions about the target audience for the Storage Foundation installation guides, and the barriers it has to accessing and using the current installation instructions. The questions explored the process customers follow to install and configure Storage Foundation products, and how the documentation fits into that process.

The interviews sought to answer the following questions:

- What kinds of customers install the Storage Foundation products, and for what purposes?
- Which installation methods do customers use most often and why?
- What process do customers follow to install and configure our products?
- How do customers access and use our installation guides?
- Which sections of the current installation guides do customers use the most?
- What kinds of frustrations do customers encounter accessing and using the guides?

This interviews helped information developers clarify the following types of information:

- Audience segmentation: The types of users who are searching for information.
- Information needs: The specific installation-related issues these customers are trying to resolve.
- Information seeking strategies: How the customers go about finding the information they need.

Participants

Information developers interviewed seven technical support engineers: six front-line engineers, and one back-line engineer. Information developers also interviewed five regional product managers. The participants' tenure at Symantec is as follows:

- Five participants have been with Symantec 6 or more years
- Two participants have been with Symantec 3-5 years
- Five participants have been with Symantec 1-2 years

All participants have been in their product management or technical support role for at least a year. Two of the less tenured participants have several years of prior experience working with Storage Foundation products as a customer.

All 12 participants work directly with customers on installations. All 12 participants support Storage Foundation, Storage Foundation HA, Dynamic Multipathing, and Veritas Cluster Server. Additionally, most of the participants support Storage Foundation Cluster File System, and 25% support Storage Foundation for Oracle RAC.

All 12 participants said they read the documentation on a regular basis, especially the release notes, installation guides, and administration guides. All access the documentation through the Symantec Operations Readiness Tools (SORT) portal or through Symantec's DocCentral repository. About half of the participants have given feedback on the documentation in the past 6 months.

Findings

The findings in this section helped inform the design of a pared-down installation guide that was used in phase II of the project.

Customers have a wide variety of skill levels; they multitask, they are in a rush, and they are very familiar with Storage Foundation products

Almost all of the participants (92%) agreed that there is a wide range in the technical abilities and skill sets of the users they work with. The product managers largely rated the users as very seasoned, and very technical (80%) whereas the technical support engineers were more likely to rate them as "more junior," and "lacking technical skills" (57%). One product manager and one technical support engineer mentioned a third, more "middle of the road" user. These users are relatively self-sufficient and only calls for help after trying to resolve issues on their own. Close to half of participants (42%) mentioned that many of the customers know our products well, and know where to find information in the documentation. The lean documentation would help this type of a customer "as a refresher if they haven't done an installation in a while."

Participants who talked about a more seasoned user would sometimes say that this type of user may even know our products "better than we do." Participants described the more junior users as contractors, outsourced employees, and unskilled shift workers. Participants said that these users were less self-sufficient and needed "more hand holding."

	%RPM	%TSE	%ALL
Customers' ability levels vary widely	80%	100%	92%
Many customers are very seasoned system administrators with years of experience	80%	29%	50%
Many customers lack basic IT skills	20%	57%	42%
Customers are often in a hurry	60%	71%	67%
Many customers know our products well	40%	43%	42%

The CPI installer is reliable and intuitive, and many customers use it; but RPMs and Support work with very different types of customers

Participants varied in the types of installations they mentioned their customers use most. All (100%) of the technical support engineers saw the common product installer as the most likely installation method, while only 60% of product managers mentioned it. All (100%) of the product managers mentioned that a lot of their customers used native OS installation methods. A significant number of support engineers (43%) said that they get "very few calls" about native OS installations. This is because the Support group does not have as much bandwidth to handle calls about native OS installations, and the Support engineers generally recommend that customers use the common product installer. The majority of participants from both groups (83%) said that the common product installer is very reliable, and customers are usually successful using it.

Some of the product managers (40%) discussed how users often have a long test phase when they introduce a new product into their environment. Users who do this generally spend 1-4 months testing products in a pilot environment before "cutting over" to a production environment. During the test phase, users run applications and mimic everyday activities. Users do all of the pre-installation work before they "cut over."

Some (40%) of product managers stated that customers often have security concerns. Customers see a new release as problematic, so they usually wait for an RP release to come out. One product manager said "if you don't install something, you don't have to worry about security so there's a reluctance to install anything new."

Some technical support participants (29%) said that customers usually have specific guidelines. In other words, they are giving instructions by their bosses to install specific products and patch levels.

	%RPM	%TSE	%ALL
The CPI installer is very reliable	60%	100%	83%
Many use native OS installation methods	100%	14%	50%
Customers run products in test environment for many months	40%	0%	17%
Customers are concerned about data security	40%	0%	17%
TSEs mainly support CPI installations	0%	43%	25%
Customers install very specific configurations (they know exactly which products and versions they need to install)	0%	29%	17%

Customers find the documentation authoritative but overwhelming; they tend to use it as reference material...if they read it at all

Many participants (71% in Support; 58% overall) said that customers seem overwhelmed by the length of the documentation. Participants used phrases like the following:

- If users look at the bottom left of a PDF and sees that it's 500 pages, it "makes them freak out."
- Typically users look at our guides and say "Wow, that's a lot of documentation."
- The guides are long. Many of the guides are 600 pages. Like "reading the first half of War and Peace."
- After opening the SFHA installation guide, "...All 544 pages...makes for some light reading."
- When the documentation is so voluminous, "customers think our product is more complicated than it really is" and they are less likely to use the more complex features.

A significant number of all participants (67%) said that they direct users to specific sections in the documentation, thus treating it as reference material. Customers tend to read only the small percentage of the documentation that fits their use case, and ignore what they don't need. Most of the technical support participants (86%) said that customers don't tend to read the installation guides at all.

Many of the product management participants (40%) and some of the technical support participants (14%) reported that they write various forms of documentation to help customers. For example, some of the product managers help customers create "run books." Run books are sets of instructions that are internal to the customers, and relevant to their configurations. They help to bridge the gap between different vendors' documentation. Other examples of documentation that participants write for customers include tech notes, email instructions, and PowerPoint presentations.

40% of product management participants mentioned that the user documentation is considered "authoritative," and customers often cut and paste commands from the documentation into the command line, or into the run books they create.

	%RPM	%TSE	%ALL
Customers use the docs as reference material	80%	57%	67%
The size of the guides is overwhelming	40%	71%	58%
Customers don't tend to read the install guides	0%	86%	50%
TSEs often provide links and page numbers to customers	0%	57%	33%
Some RPMs and TSEs write instructions for customers	40%	14%	25%
The documentation is seen as authoritative; customers cut and paste commands	40%	0%	17%

Customers download documents from SORT; they use the PDF ToC links but don't like to jump around so much

The next section looks at discussion points around how users find the installation-related information they need. The following was noted:

- 50% of participants across both groups reported that customers use SORT to read the docs and look up information about errors.
- 33% of participants across both groups reported that hyperlinks (cross-references and external URLs) are an important part of users' information seeking strategies.
- 33% of participants across both groups noted that the section titles are sufficiently descriptive. (For the other 67%, the topic of section titles was not brought up in the interview.)
- 57% of technical support participants said that the information in the installation guides is effective, once users read it. Usually, the technical support engineers point the users to the information they need, rather than the user attempting to find the information first.
- 33% of participants across both groups reported that the information in the installation guides is not linear according to the order in which users need to access it. In other words, customers are, as one participant put it "forced to jump around" to find what they need.
- 25% of participants mentioned that Symantec should offer free or low cost training classes to our customers to supplement the documentation. According to participants, training gets customers interested in our products. One participant remarked that well informed customers become "our champions." You really need to take a one-week class to understand our products.
- Two technical support participants (29%) mentioned that pointing users to videos has helped them understand some of the more difficult concepts.

	%RPM	%TSE	%ALL
Customers use SORT to look up information	60%	43%	50%
Customers use the ToC links in the PDFs	40%	29%	33%
The titles work well	40%	29%	33%
The documentation is not linear according to use cases; you have to jump around to find information	40%	29%	33%
We should provide free or reduced price training	20%	29%	25%
Videos would be a helpful supplement	0%	29%	17%

The main areas to highlight in a leaner installation guide are patching and updating, obtaining product binaries, and system requirements (among others)

This section presents findings on the parts of the existing documentation that customers refer to the most often. The findings are presented according to the numbers of participants who mentioned the sections during the interviews, as follows:

- High relevance changes. Over 50% of participants mentioned that these changes are important.
- Medium relevance changes. Less than 50% (but more than 25%) of participants mentioned that these changes are important.
- Lower relevance changes. 25% or fewer of the participants mentioned that these changes are important. This does not mean that these changes are not important; it just means that we may want to consider keeping some of these sections in the comprehensive documentation, as opposed to the leaner guides. The fact that they were mentioned during the interviews at all means they are somewhat important to highlight.

High relevance changes

When asked what information users view most, 83% of participants mentioned Veritas patches. Patches often resolve installation issues, so links to the SORT patch finder should be prominent in the documentation. We should include information about the sequence you need to follow if you're patching, and the need to re-run the configuration after patching.

75% of participants mentioned the need to provide more information about downloading binaries from FileConnect. Customers need more information about the Fileconnect download process (how to get the binaries, and what to do once you download them).

The System Requirements are very important; 67% of participants mentioned this.

Customers need to know what Veritas product they're installing; 58% of participants said that customers are always asking which features come with which applications. It's more important to provide conceptual configuration information than it is to provide installation instructions. Conceptual information is largely missing in the installation guides.

58% of participants said that a lean installation guide does not need much troubleshooting information because there are very well-written guides that contain that type of information. The troubleshooting section should cross-references to the larger troubleshooting guides, or if we do add troubleshooting information, we should keep it brief.

58% of participants said that we should include more information about the SORT data collector because it is helpful to assess customers' systems. However, 42% also said that the Data Collector isn't for everyone. For example, some customers who are cutting over to a production environment only have 4-6 hours; and that is not enough time to run the Data Collector and troubleshoot issues, especially if there is no Internet access.

Medium relevance changes

Among the technical support participants, 71% said that they get a lot of calls on pre-installation issues.

A significant number of all participants (42%) said that users understand the installation guides better if there are diagrams and charts. One participant even refers to the older documentation more than the newer documentation because the older documentation has more diagrams.

All of the product management participants (100%) said that we may not need to include information about array support libraries (ASLs) in the lean installation instructions. Here's why:

- Users should already know if our products support their arrays. They should check the ASLs before they buy the product.
- Many customers use directly-attached storage, and not arrays.

Two technical support participants said that some customers run into problems because their Veritas product does not support certain arrays in their configuration.

80% of product management participants suggested that we include information about how how customers can gain visibility into their configurations using VOM. However, participants cautioned that installing VOM is complex, and involves a lot of infrastructure. It only makes sense to use VOM if you're running a larger configuration.

Among technical support participants, 57% mentioned that hardware setup is critical. Reading the HCLs before installation will save the users a lot of time.

Lower relevance changes

Three technical support participants (43%) mentioned that they had never talked to a customer who used media to install Storage Foundation. Several participants said "nobody mounts the product disc anymore; people download binaries over the Internet." However, 40% of product managers mentioned that some customers do access the documentation from media.

Overall, 25% of participants mentioned that the information on running prechecks needs to be more prominent.

Among product management participants, 60% said that the What's New information is very important. This information does not normally appear in the installation guides, but it's important to note that the What's New guide for VCS is important to this audience.

Several participants across both groups (25%) reported that virtualization is an important concept to highlight in the documentation. Specifically, it is important to provide configuration information for virtualization.

Two product management participants (40%) suggested that the lean installation instructions include SORT tools, such as the support checklist.

	%RPM	%TSE	%ALL
Information about patches and updates	80%	86%	83%
Downloading binaries from Fileconnect	80%	71%	75%
System requirements	40%	86%	67%
High-level product information	60%	57%	58%
Keep troubleshooting information short	80%	43%	58%
Use the SORT data collector	60%	57%	58%
Mention the SORT DC limitations	60%	29%	42%
Preinstallation in general	0%	71%	42%
Diagrams and charts	20%	57%	42%
Less on ASLs	100%	0%	42%
Mention the ASL resources	0%	29%	17%
Viewing configurations using VOM	80%	0%	33%
Hardware Compatibility Lists	0%	57%	33%
Users don't mount the product disc	0%	43%	25%
Some users mount the product disc	40%	0%	17%
Prechecks are important to highlight	40%	14%	25%
What's New information is important	60%	0%	25%
Virtualization increasingly significant	40%	14%	25%
Document SORT installation aids	40%	0%	17%

We need comprehensive installation guides, but a leaner guide would balance the lengthiness of the larger guides as a less intimidating alternative

Half of the participants (50%) across both groups said that a leaner installation guide could help with a number of different use cases, such as:

- Fresh installations for seasoned users; many of the users are familiar with our products, so the leaner guide could serve as a refresher when they acquire new equipment or change platforms.
- Migrations; many seasoned users are migrating from Solaris to Linux. They know our products, but might need basic platform-specific instructions.
- Brand new users; these users may feel intimidated by such a large set of documentation. A leaner set of installation instructions may help these users get started, and point to the comprehensive documentation for more information.
- People in a hurry. For people who are intimidated by a large documentation set, the lean instructions could help them get started with the installation.

Participants across both groups (42%) said that a leaner set of installation instructions would balance the lengthiness of the full docs. One participant said "I can see them starting with the QuickStart and navigating to the larger doc set for more details."

Half of participants (50%) across both groups described the current documentation as "comprehensive." One said "the comprehensiveness is a good thing." Another said "that type of documentation is suited for the thorough types." Several of the technical support participants said that we need comprehensive documentation and cautioned against removing content from the existing guides.

One product management participant suggested that, in addition to creating lean instructions, we should remove extraneous information from the comprehensive documents. In the participant's words, "trim the full guides."

Two technical support participants (29%) said that the technical support engineers rely on the comprehensive documentation most for the higher stack products.

	%RPM	%TSE	%ALL
There are many use cases for a lean install guide	40%	57%	50%
We still need the larger installation guides	40%	57%	50%
It would balance the lengthiness of the larger comprehensive guides	40%	43%	42%
Support relies on the larger installation guides, especially for the higher stack products	0%	29%	17%
Also trim unnecessary information from the larger install guides	20%	0%	8%

Phase II User Testing

At the conclusion of the phase I interviews, the Information Developers used the findings from those interviews to mock up a new, lean installation document designed to better meet customer needs. The simplified installation guide weighed in at 42 pages; far shorter than the 200-500 page guides that customers currently use. The idea was to create a pared-down guide that customers could use to perform a "fresh installation" (a new installation, on new equipment, that is not an upgrade of a previous Storage Foundation version).

The second phase of the project was a series of short, scenario-based user tests to find out more about how users access information, and how easy or hard it is to follow the instructions in the mockup. Information developers conducted the user testing with the same 12 Support and Product Management participants.

Method

A usability evaluation was run in 12 individual sessions over eight testing days. The usability evaluations took place during work hours on weekday slots between December 3 and December 12, 2012. Each individual session consisted of a set of information-finding tasks, and a post-study interview.

The product managers' evaluations took place over the phone, and the information developers observed the participants' desktops via LiveMeeting. The technical support interviews took place live in the participant's cubicles.

The individual evaluations included the following:
- A performance evaluation in which each participant is asked to perform a short series of real-life information-finding tasks (approximately 20 minutes)
- An a short post-study interview after each performance evaluation to gather additional insights from the participant (approximately 10 minutes)

Goals

The study sought to identify problem areas in the content, layout, and overall ease of use of the lean installation mockup.
Specifically, the study sought to answer the following questions:
- How well does the document's organization support user goals?
- How easy or hard is it to find the information needed to perform tasks?
- How well do headings represent the content users expected to find?

Data Collection

The information developers collected data through the use of a "thinking aloud" protocol.
The evaluators collected the following:
1. The percentage of participants who finished each task successfully.
2. The number of cases in which the participants were not able to complete a task because they could not find the needed information.
3. The number of positive or critical statements about the document, or the experience using it.

4. The number of indications of frustration or joy from the participant.
5. The number of subjective opinions of the usability of the document that the participants expressed.

Details of the User Study

The following table includes details about the goals, tasks, and evaluators.

Element	Description
Usability Goals	This evaluation was based on the following usability goals: • Participants will move through the document with no expressed or visible difficulty • Participants will find information with no expressed or visible frustration • Participants will have no more than two failed attempts in finding specific information
Usability Tasks	The information developers designed the following information-finding tasks, with a benchmark of 5 minutes per task. Participants were expected to find the following information in the lean installation mockup with no assistance: • Information about installing a patch release • Information about automatically or manually assessing a system • Whether FlashSnap is included in SFCFS • How to download the product binaries from Fileconnect
Evaluator Roles	One or two information developers participated in the usability evaluations. Together, information developers conducted 12 usability sessions from start to finish.

Results

The success rates should be considered approximate due to the following:

- Some participants asked for prompts if they were having trouble completing the task.
- Some participants did not want to use the guide to complete the task, and instead used an alternative method (online resources outside of the lean installation guide).
- Some participants are former Symantec customers, and saw the task from both the Symantec employee perspective and the end-user perspective.
- The tasks were performed in the order they appear in the table. Success rates seemed to improve as participants became more familiar with the document layout.

The table below includes the evaluation results. For each task, the results include the following:

- The percentage of participants who successfully completed the task.

- The participant's rating of the task (on a scale of 1 – 7, where 1 is difficult, and 7 is easy). Not all participants rated the tasks, so the results are tabulated based on the participants who did provide a rating.

	PM1	PM2	PM3	PM4	PM5	TS1	TS2	TS3	TS4	TS5	TS6	TS7	Averages
Patching a release													
Success Y/N	N	Y	Y	N	N	Y	N	Y	Y	Y	N	Y	58%
Rating	7	6	6	3.5	6	6.5	N/A	5.5	6	7	7	6	6
Hardware compatibility													
Success Y/N	N	Y	Y	Y	N	Y	Y	Y	Y	N	Y	Y	75%
Rating	6	6	6	6	5	6.5	N/A	3.5	4	1	7	7	5.3
Features in a product													
Success Y/N	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	91%
Rating	7	7	4	6	3	6.5	N/A	4	3	7	7	6	5.5
Downloading binaries													
Success Y/N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100%
Rating	5	6	7	7	1	7	7	4.5	4	7	6	7	5.7

Findings

The current installation guides are reasonably usable, and participants have developed their own habits for using them

During the pre-test question period, information developers asked participants to comment on their experiences using the current installation guides. Most participants said they were generally happy with the existing installation guides, and they cited many different ways that they use them. When information developers asked participants the pre-test questions pertaining to their experiences using the existing installation guides, participants made the following comments:

- *The installation guides are useful, and customers find them useful.*
- *I use them when the install doesn't work.*
- *For me they're okay because I'm used to them, and jumping around.*
- *I read a lot of them. Sometimes get an overwhelming sense.*
- *When I am trying something new I read the guides. I also read them as material for white papers I write. Or as a reference. For creating competitive collateral.*
- *I read them to find what's required; or maybe release notes.*
- *Definitely consult the docs if I'm helping a customer.*
- *Use the installation guides as reference material. There are parts that do pre-installation.*
- *Usually don't use the installation guides.*
- *(While browsing through the guide). The install guides are good.*
- *I send customers procedures, how to install, compatibility, supported kernels. Sometimes I give them page numbers, other times I copy from the guides and paste the information.*
- *The installation guides are detailed, and they work well.*
- *How do I use the installation guides? I refer customers to the preinstallation chapters to verify their system is supported.*
- *The installation guides are pretty good, I like it. It does give you all the requirements. Some gotchas. Generally true information. Enough to know you can safely proceed with the installation.*
- *I use the installation guides when the customer calls with an upgrade issue. Generally use the upgrade sections the most.*
- *I definitely use them when customers call with questions about rolling upgrades and phased upgrades.*

Participants had the following feedback for improving the installation guides:

- *Would be nice if there were a fast track to the information.*
- *Quickstarts are important to us.*
- *The target audience doesn't like the jumping around.*
- *The things that are often looked for need to be more clearly defined.*
- *Sometimes things show up in 3-4 different places, or only in one particular guide. They're hard to wrangle if you don't know where (the information) is.*

Participants changed information-finding strategies to fit the task they were attempting

Most people have a primary information-finding strategy, like browsing or searching. When things get difficult, people often switch to a different strategy, or alternate between different strategies. During the four tasks, the number of participants employing a particular strategy changed depending on the task. This indicates that participants were attempting to adapt to the document, rather than the document being optimized to accommodate participants' information-finding strategies.

Note that the third task is based on 11 participants because one of the participants did not attempt the third task.

	No. of participants	% of participants
Patching a release		
Browse PDF Toc only	9	75%
Search only	5	41%
Both	2	16%
Hardware compatibility		
Browse PDF Toc	9	75%
Search	3	25%
Both	0	0%
Features in a product		
Browse PDF Toc	7 of 11	63%
Search	6 of 11	55%
Both	2 of 11	18%
Downloading binaries		
Browse PDF Toc	7	58%
Search	7	58%
Both	2	16%

Participants did not expect to find patching and updating information in an installation guide, but many liked it once they saw it

The lean installation mockup placed information on patching and updating in its own separate chapter, after the installation chapter. Of the 12 participants who attempted to find information on patching and updating, only 7 completed the task successfully. Interestingly, participants rated the task a 6 out of 7 because the information is readily available on SORT.

The Storage Foundation 6.1 release contains a new installation feature that allows users to download patches and updates at the CPI level. This is a new paradigm that the technical support and product management teams have not yet helped customers with.

	PM1	PM2	PM3	PM4	PM5	TS1	TS2	TS3	TS4	TS5	TS6	TS7	Ave.
Patching a release													
Success Y/N	N	Y	Y	N	N	Y	N	Y	Y	Y	N	Y	58%
Rating	7	6	6	3.5	6	6.5	N/A	5.5	6	7	7	6	6

Several participants expressed that they would not look in an installation document for information on patching a product:

- *Would not use this document to find that information.*
- *Wouldn't think an overview guide would have that.*
- *I wouldn't go to the installation guide. I'd go to the patch release notes…Wouldn't even go here.*
- *Would not typically go to this guide for patching and updating.*

Participants were either looking for information about how to get to SORT, or they were searching for "features," "fixed issues," or "patch."

Participants who found the information right away mostly browsed the PDF table of contents links and found the *Patching and Updating* chapter. Those participants found the task "pretty easy" or "that actually works; it would be good" but cautioned that not everyone can perform the SORT checks because they may be behind a firewall and without Internet access.

Many participants couldn't find the pre-installation sections about assessing your system

75% of participants figured out that the lean installation mockup Preinstallation chapter directs users to the SORT tools under the headings "Automatically assessing your system" and "Manually assessing your system." Participants who browsed the PDF table of contents links found the information right away. One participant who did not find the information (and several who did) searched for "compatibility" or "HCL." One participant suggested changing the title of that section: "I'm giving this task a 4 because there's a lot of history with the terms 'prerequisites' and 'system requirements.'

	PM1	PM2	PM3	PM4	PM5	TS1	TS2	TS3	TS4	TS5	TS6	TS7	Ave.
Hardware compatibility													
Success Y/N	N	Y	Y	Y	N	Y	Y	Y	Y	N	Y	Y	75%
Rating	6	6	6	6	5	6.5	N/A	3.5	4	1	7	7	5.3

Most participants found the feature checklist but thought it took too many clicks; not all participants agreed the lean installation guide is the right place for that section

All but one participant found the feature checklist, which was in an appendix in the lean installation mockup. The appendix title was "Veritas feature overview," and it contained a "Feature descriptions" section and another section called "Feature support across Veritas Storage Foundation and High

Availability Solutions 6.1 products." The latter section contained a matrix with a list of features, and all of the products that had that feature.

The task was to find out if the FlashSnap feature was part of Storage Foundation Cluster File System (SFCFS) product. Participants who attempted the task either browsed the PDF table of contents links, or searched for "FlashSnap."(One participant did not attempt the task because of extensive prior knowledge about FlashSnap).

Participants who searched for "flashsnap" went first to the feature description section, and then later to the product feature matrix, and that process took several clicks. Because it took a while to find the information, the average rating for this task was a bit lower: 5.5.

	PM1	PM2	PM3	PM4	PM5	TS1	TS2	TS3	TS4	TS5	TS6	TS7	Ave.
Features in a product													
Success Y/N	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	91%
Rating	7	7	4	6	3	6.5	N/A	4	3	7	7	6	5.5

Though participants were generally happy with the information in the feature support matrix, three participants were unsure the installation documentation was the right place for it:

- *Feature overview; will customers know to look there?*
- *Not sure if it belongs here, though.*
- *Not sure I'd go to the installation guide to answer this question.*

100% of participants found the information on Fileconnect, but most cited problems with the process of obtaining binaries as a larger issue

100% of participants found the information about downloading binaries on Symantec's Fileconnect site. Participants either found the section in the Preinstallation chapter, or they searched "fileconnect" and found the information right away.

Participants cited the problem that many users don't use Fileconnect because it's easier to download the software from the Trialware site, where you don't need a license key, and install it keylessly. However, Support engineers are encouraged to direct customers to File connect. One participant rated the task a "1" because Fileconnect is not user friendly.

	PM1	PM2	PM3	PM4	PM5	TS1	TS2	TS3	TS4	TS5	TS6	TS7	Ave.
Downloading binaries													
Success Y/N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100%
Rating	5	6	7	7	1	7	7	4.5	4	7	6	7	5.7

Nevertheless, particpants felt the information was useful. Here are some of their comments:

- *Good news for customers. Yes, include this section, it's useful without a doubt.*
- *This section will be absolutely helpful.*
- *The title is clear, and what I'd expect…Good place for it. Has the Web site, where to call, even how to extract the binaries. Like it.*
- *This is great. I can refer them to this guide then.*

Feedback on the Lean Installation Mockup

After the usability evaluation, information developer asked participants for some feedback on the lean installation instructions. The sections below describe their impressions of the mockup.

General Feedback about the Mockup

Participants were asked how they would describe the content, layout, and overall ease of use of the mockup. Most of the participants were happy with the document. Here are some of the positive descriptions:

- *Easy to use. Easy to follow. Complete instructions on how to verify that your system can handle the installation.*
- *Concise. Easy to navigate. Fast track.*
- *Where you want to start. QuickGuide. Good place to start.*
- *People are, unfortunately, encumbered with time constraints. I'd call this guide a quickstart. Accelerated install guide. High-level checklist. Ensures environment is compatible.*
- *New quickstart. FAQ, how to interact with Symantec. Here's something new we're doing. A fast way for you to get started.*
- *Start here. Overview. Gets basic points down. Everything the GSG has always tried to be but never was. Top-level overview.*
- *Installation overview. QuickStart.*
- *Pretty good. Pretty well organized.*
- *Quick overview guide. Simple. Once the other issues are fixed, it will be just enough and minimal to get you up and running.*
- *Good job. This is good. The field is always looking for this kind of thing.*

- *Looks to be a dramatic improvement.*
- *I like the format. More what people are looking for when they're getting started. Pretty happy overall.*
- *It's enough information. With a document this short, they won't lose interest in the documentation.*
- *This guide is much shorter and less intimidating. 42 pages is not unreasonable.*
- *I thought it was release notes at first, but I didn't read the title. Enough to get the customer started. Overview. Overview guide. Simpler than I thought. End-user focused. Very different.*
- *Good. Helpful. Concise. Standard. It follows the standards for the other guides. It's consistent. It's only 42 pages. I like the tear offs on the graphics. A little more modern with the new style graphics. I like that it's short—I'm a fan of that. Don't like that we give them a bible.*

One participant liked the product feature matrix but otherwise felt that the mockup needed more work:

- *There's more information than necessary. The patching stuff belongs in the AG. Feature lists belong in the RNs. The guide is not organized well. The matrix looks good. I love matrices.*

Feedback about the Goals of the Mockup

Participants were asked what they felt the goals of the mockup were. Participants made the following comments about the document's goals:

- *Easy to use. Get working, not necessarily in that order.*
- *General purpose installation. No configuration. Configuration is where most people get bogged down. Not an architecture guide. Not troubleshooting.*
- *Get somebody a quick start on what they need to do an install.*
- *Accurate identification of prerequisites in a simple manner. Steps to install the right product. Minimal acknowledgement of changes from the previous release.*
- *Pointing people to SORT. What you need to get started. How to get software from Symantec.*
- *Getting the product installed. Getting a basic installation going. Not trying to configure.*
- *Get you into a working system as easily as possible.*
- *To get the product installed. Installing should be its own chapter. People want to go right to installing. If they have to dig for it, they get frustrated.*
- *Run the pre-check and install the software.*
- *To get the customer up and running fast.*
- *To provide customers with a concise document to do a fresh installation.*

Feedback about the Audience of the Mockup

Participants were asked who they felt was the target audience for the mockup. Participants made the following comments about the document's audience:

- *Experienced system administrators, but sometimes (a person who is) 3 months on the job, learning as he was doing the installation.*
- *System administrators. Build guys, deployment guys.*

- *Implementers. People responsible for installing the product or someone trying to assist with an installation.*
- *New person. New customer.*
- *Users wanting a quick overview and quick reference to finding more information.*
- *Those who are about to install and those who are considering it. People who are already savvy vs. people who have taken classes. People running questionable versions of the product.*
- *System administrators. UNIX administrators. Not network or SAN administrators. Front-line UNIX guys who take the machine out of the box and stick it on a rack.*
- *System administrators. IT architects. Installations done by a junior person but they get architected by a senior person. The senior person would write an in-house guide to give to the junior person. But some sites don't have architects. Usually installations are looked at as simple so the high horsepower people don't often do installations.*
- *Anyone. Someone off the street could get it. The technical people don't know how to get the product and how to install it.*
- *The end user definitely. System administrators, the one who manages the environment and knows the environment.*
- *It's good for people in a hurry, which almost all customers are. They have a lot on their plate; meetings, managers breathing down their neck, constantly IMing. They don't have much uninterrupted time to read. The audience includes customers doing fresh installs; likely a test or development engineer.*

Feedback about the Length and Content of the Mockup

Participants were asked if they felt the mockup was too long, too short, or just the right length; and what, if anything, would they add or remove from the mockup. Here are their comments:

- *For now right. May change my answer later.*
- *May not need product overviews. Add: a section on finding more information but calling it out as a major section is good.*
- *Enough. Pretty spot on. I tend to like more information than most. Some might find it cluttered. About just right.*
- *Feature descriptions need to be somewhere. "SF at a glance" with methodical breakdown explaining features. Start with the lowest level…SF…SFHA…it's a build up.*
- *Downloading binaries is too complicated and there are two different ways to do licensing.*
- *Can we make the boilerplate shorter? Otherwise, I really like this.*
- *Need more information about ASLs. People should have that information. Tech notes with example installations. Best practices tech notes. References to tech notes. Keep up with patches. No references to virtual systems. Cross-references to the virtualization guides.*
- *About right.*
- *Remove patching and updating; move it to the administrator's guides. Product overview belongs in release notes. Feature overview belongs in release notes. Small glossary might be okay. Product feature overviews in release notes, so cross-reference release notes.*

- *So far, enough. I refer them to particular sections. For complex configurations, they should call their PSO or their account manager and have professional services help them with the configuration.*
- *42 pages. Sounds like it covers most of the bases without too much information. Good layout.*
- *At the beginning, add a blurb about how the manual is laid out. An overview of what the chapters are. Make it a preface maybe? Say its for new installations, not upgrades.*
- *Add an appendix separating theory about the installation and actually doing it. VOM note may not be clear. Search terms are important. The references to the guides are good.*
- *You only show how to install. Installation and configuration are two different things. This should not show them how to configure. They should engage professional services for that; service-level support if they need configuration help. Or, cross-reference the administrator guides.*
- *Suggest adding information about training to the "For more information" section.*
- *Add system requirements. In addition to the precheck, you can do SORT reports.*
- *The feature table is really good. Put a picture of the installer right after step 3 in the Installing your product section; and a configure screen shot too.*

Conclusion and Recommendations

Based on the findings in this report, it is recommended that information developers continue rewriting and reworking the lean installation mockup. As part of the rewrite, information developers should do the following:

1. Refactor each section considering all possible information-seeking strategies.
2. Patching and updating was found to be the most important section in phase I of this project. Information developers should consult with customer-facing teams and engineering teams to determine where that information belongs. If information developers include this feature in the installation documentation, they should make sure the titles include keywords that would help users find the information.
3. Make it easier to find the prerequisites. Name the chapter *Prerequisites*, and add the system requirements information to that chapter.
4. Move the feature descriptions into a feature glossary at the end of the document. Discuss with customer-facing teams where the feature matrix belongs.
5. File a process improvement request to address the issues with the Fileconnect download process.
6. Put the issues in the section *Feedback about the Length and Content of the Mockup* on the information development backlog and fix them in an upcoming release.
7. After incorporating all the changes to the mockup, put it on a review server, and make sure it gets fully tested before it is added to the product deliverable set.

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