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Digital Users at a Crossroads: Migration of the VAX/VMS Installed Base

Executive Summary

Nearly 30% of VAX/VMS users surveyed by Harvard Research Group (HRG) in the summer of 1997 are planning to switch to another platform within the next five years, with an astounding 93% of that migration coming in the next three years. And among those planning to switch platforms, 83% of them are planning to move away from Digital, having decided that it makes better sense to find a new supplier. Such user dissatisfaction does not bode well for the future of Digital, just as the selling off of Digital's "family jewels" (storage, Rdb, Alpha manufacturing, networking) does little to address one of the company's main problems: increasing revenue and market share. And if the company's installed base, arguably its most precious asset, is eroding, how long will it be before the company can no longer sustain itself? Compounding the problem is the fact that many in the ISV community are unhappy with Digital, as they perceive the platform to be losing ground in market share as well as technology. More and more ISV's are putting their development and support efforts into other platforms such as NT and UNIX, leaving VAX/VMS customers to fend for themselves. As support for existing applications and the relative availability of new ones on VAX/VMS shrinks, only the staunchest Digital supporters will remain in the fold.

The promise that Digital will regain its former luster remains only a dream for the time being. Digital has been losing share in many key areas, and little new has been offered that indicates a turnaround. In fact, with Y2K issues causing many companies to reevaluate their IT investments earlier than they had planned, the migration away from Digital may pick up steam. The overwhelming consensus among HRG survey respondents is that Digital has walked away from its installed base and distinctive core competencies, and in general just "doesn't get it."

Having followed the trials and tribulations of Digital for many years now and spoken to thousands of people within the Digital fold (customers, ISV's, VAR's, distributors, consultants, etc.) over that time, HRG views Digital's current situation as nothing less than a full-blown crisis. Loyal customers and ISV's alike are leaving, and there is little in the way of new product to attract new ones. Financial stability is fleeting, and each new turnaround has thus far been met with an unforeseen roadblock. How long can such a roller coaster ride continue? Digital's user base is clearly vulnerable to a wide range of competitors who offer less expensive open systems with a wide variety of robust applications, and they are eagerly signing up customers who are dissatisfied or even angry at Digital.

Introduction

Harvard Research Group, a longtime Digital Equipment Corporation observer, has conducted more than 2,000 interviews with Digital users over the past five years in a variety of areas ranging from user satisfaction to technical requirements. Anticipating Digital's 40th anniversary in August as well as the 20th anniversary of the VAX and OpenVMS family of systems in October, HRG embarked on an in-depth research study of VAX/VMS users during the summer of 1997. The study, which was designed to obtain their views of Digital as well as their plans for the future, consisted of three components:

- 209 quantitative surveys with IS directors at Fortune 1000-type companies from a range of industries such as manufacturing, health care, distribution, and government
- 20 qualitative telephone interviews conducted in Europe and the United States with IS directors at companies who are actively migrating from VAX/VMS to another platform
- More than 40 in-depth discussions with ISVs, VARs, and distributors.

This report summarizes the findings of the 1997 HRG research with the VAX/VMS installed base and related constituencies. Our research was conducted by seasoned industry veterans who understand Digital's history, technology, and customer base as well as the issues that businesses and other organizations face as they integrate new computing paradigms into their operations.

Although many VAX/VMS users had high praise for Digital's technology, they were less enthusiastic about Digital's strategic direction (or lack of one) and the company's seeming indifference to many problems faced by the customer base. Having witnessed the gradual and continued dismantling of a once-mighty contender among computer heavyweights, customers are now faced with the real possibility that Digital's traditional engineering excellence will no longer satisfy their needs.

More than twenty-eight percent of VAX/VMS users surveyed are planning to switch to another platform within the next five years. 93% of that migration is taking place in the next three years. One important reason for this migration is that the number of applications being written for VMS continues to steadily decline, making it harder for IT managers to justify future investments. It is also becoming increasingly difficult to attract and retain developers who specialize in VAX/VMS, as new programmers tend to go where the action is, e.g., NT. In addition, Year 2000 (Y2K) issues are accelerating the review cycle, and the prospect of rewriting legacy code on a proprietary platform when other attractive alternatives exist seems less and less desirable. Only recently did Digital announce a Y2K-compliant version of OpenVMS.

Such user dissatisfaction does not bode well for the future of Digital, just as the selling off of Digital's "family jewels" (storage, Rdb, Alpha semiconductor manufacturing, networking) does little to address one of the company's main problems: increasing revenue and market share. And if the company's installed base, arguably its most precious asset, is eroding, how long will it be before the company can no longer sustain itself? Certainly there has been talk of a buyout before (Compaq was rumored to have offered \$10 billion for the company prior to its purchase of Tandem), but the promise that Digital will regain its former luster remains only a dream for the time being. Digital has been losing share in many key areas, and little new has been offered that indicates a turnaround. The general consensus among all respondents is that Digital has walked away from its installed base and distinctive core competencies, and in general just "doesn't get it."

Survey Respondent Demographics

209 qualitative surveys were conducted during the summer of 1997 with IS directors, managers, and similar personnel at organizations with Digital VAX and other types of computer installations. Respondents were from a variety of industries and size of institution.

Table 1.
Survey Respondent Demographics

Industry	Number	Percent
Manufacturing	64	30.6%
Health Care	45	21.5%
Government	38	18.2%
Distribution	17	8.1%
Other	45	21.5%
Total	209	100.0%

In addition to Digital VAX's and Alpha, many respondents used "primary" equipment from other vendors. 12% of respondents used IBM (UNIX, mainframe, etc.); 3% used Sun, and 2% used HP that were designated as "primary" systems. For "secondary" systems, 50% of respondents used Digital; 19% used IBM, and 6% used HP.

Survey Results

In our discussions with VAX/VMS systems executives and third parties, a consistent theme emerged: Digital's "engineering culture" no longer meets the real-world needs of its users. No doubt Digital's products are among the best offered, but this alone will not keep users in the fold. Cited most often as an example of Digital's weaknesses was the fact that the company had never learned the art of communicating with its users. As little as ten years ago, these same managers were comfortable with Digital's direction in the computing industry — to continue to build ever higher performance platforms from which to meet the growing information needs of business, industrial and scientific communities. But much has changed in a decade, and these managers no longer possess the same amount of patience and optimism about Digital they felt then.

No longer is an elegant computing architecture and the potent VAX/VMS duo a sufficient answer to meet the needs of many organizations. Now IS managers require standardized product architectures for both systems and applications software; adoption of common data communications protocols capable of handling increasing load and message levels; robust, scalable servers; and highly compatible off-the-shelf packaged software applications. And they want all of this at the lowest possible total cost of ownership.

As much as VMS is loved by its users (for example, OpenVMS was recently ranked the top operating system in healthcare in a survey conducted by HCIA and the College of Healthcare Information Management Executives), it is a proprietary OS from a company that is often perceived by customers, competitors, and independent software vendors alike as having no clear future. So why should potential users and partners make the investment to create and support software for a non-standard platform with an apparently shrinking user base and declining market share?

In HRG's survey of 209 current VAX/VMS users, 28.3% indicated that they are planning to switch platforms within the next few years, with only a small portion of this group remaining with Digital (Alpha/VMS, NT, UNIX). While 28.3% may seem like a relatively low number compared to the 71.7% who plan to remain with Digital, one must not forget that this figure is continuously changing over time and is highly dependent on the applications that customers wish to run. If Digital cannot keep pace with new applications (a distinct possibility, given the views of the ISV community) and continues to suffer from a lack of clear strategy for growing the core server business, HRG estimates that the installed base erosion will accelerate in the years ahead.

Reasons for Switching

Among the Digital customers planning to switch to a new platform, 78.6% said that the new platform had "much better" availability of new applications; 63.6% noted performance as an issue. Other criteria receiving significant attention included reliability

and product features (see Table 2). In other words, many loyal Digital users see better offerings elsewhere, especially outside of the Digital product set.

Clearly, VAX/VMS fares poorly when compared to other platforms for the availability of new applications. With packaged rather than custom software the norm these days, prospects want to make sure that they can purchase the solutions they need and feel confident that the solution will evolve over time along with their requirements. With software for VAX/VMS, this is not the case. As we discuss in our section on ISVs, they are putting their money into other platforms, and many customers will be faced with the choice of going it alone or switching platforms. While Digital has long held claim to superior performance and reliability, significant numbers of customers rated their planned system as being better than the VAX/VMS in these areas. In other words, the "engineering excellence" gap that Digital built its reputation on has shrunk considerably and is of diminishing importance to customers when they evaluate alternatives. More than one prospect has shied away from Digital for reasons such as "financial instability" or "lack of long-term direction."

Table 2.
Comparison Between New Platform and Current VAX/VMS

	Percent Indicating New Platform "Much Better"
Availability of New Applications	78.6
Performance	63.6
Reliability	59.5
Product Features	57.8
Price	50.0
Services	45.5
Timeliness of Vendor Response	39.5
Sales Support	38.6

**Score of 4 or 5 (on scale of 1-5, where 5 is "much better") in comparing new platform to current Digital platform among those planning to switch.*

When asked for the reasons they were switching from the VAX/VMS platform, the overwhelming response dealt with software. Fully 28% of respondents cited this as the key reason for switching (see Table 3 below). This finding is, of course, entirely consistent with the above observation that 78.6% of respondents rank their planned platform as superior to Digital's for the availability of new applications. Other key factors included the need for an open system and the belief that the VAX/VMS is an obsolete platform. Certainly there are Digital stalwarts who will claim that VAX/VMS is as good as any other system offered, but their number is dwindling.

Table 3.
Reasons for Switching from VAX/VMS

28%	Software Related Reasons:
15%	Applications have migrated
13%	New applications required
12%	Open System requirement
11%	Obsolete Platform
10%	Corporate Strategy or Standards
18%	Digital-related issues (in the aggregate)*
21%	Other

**Includes issues pertaining to a perceived lack of successful business strategies at Digital; continued erosion in the quality of support; increasing licensing and support costs; and concerns about the future of proprietary products.*

Migration Plans

Of the VAX/VMS customers who indicated current plans to migrate (see Table 4 below), 17% were considering Alpha (VMS, NT, UNIX) as a solution; the rest were planning to "leave the fold" and move on to another vendor. Incidentally, a comparable figure in our 1994 survey of 100 VAX users was 34%; this "Digital loyalty" number has been cut in half over the past three years! IBM (both RS/6000 and AS/400), Sun, and HP were most often cited as the potential beneficiaries of Digital's installed base turmoil.

Table 4.
Migration Plans by Platform

17%	Digital Alpha
43%	UNIX ¹
14%	NT
12%	Intel Boxes ²
9%	Other
5%	IBM AS/400

Perceptions of IT Vendors

All 209 respondents to the HRG survey, including those who are planning to remain with VAX/VMS, were asked to rate various IT vendors on factors such as product reliability, the possibility of a long-term strategic relationship, and availability of new applications. While Digital scored the highest of any vendor in terms of product reliability, it fared poorly as a possible long-term strategic IT partner as well as for the availability of new applications. Digital's scores for these two criteria, 39.6% and 24.4%, respectively (see Table 5 below) placed the company far behind the competition. As we have indicated, "engineering excellence" can only go so far. These days, it matters less and less compared to other factors.

It is interesting to note that the other "Big 3" systems vendors, IBM, HP, and Sun, all had scores that were relatively close together for the three criteria. In other words, none of them stood out in our sample for having significantly better reliability or new applications. Compaq, on the other hand, fared poorly on product reliability (43%), but it scored the highest of anyone as a potential long-term strategic IT partner (71%). This emphasizes the importance of the desktop as well as of inexpensive, open systems. Compaq's products may not have the uptime of a Digital or IBM, but they can be replaced at a moment's notice with very little disruption to the business. At one time Digital dismissed the personal computer as nothing more than a toy ("no one would use it for serious computing"), but Compaq is now among the top 5 computer vendors worldwide.

¹Multiple vendors cited,

²Multiple vendors

**Table 5.
Perceptions of IT Vendors***

	Product Reliability	Long-term Strategic IT Partner	New Applications
Digital	81.3%	39.6%	24.4%
IBM	73.5%	53.7%	58.2%
Sun	70.0%	63.2%	50.0%
HP	66.7%	60.6%	63.6%
Compaq	42.9%	71.4%	66.7%

*% of respondents scoring 6 or 7 on scale of 1-7, where 7 is excellent.

Declining ISV Support

HRG's study revealed a number of cases where VAX/VMS sites had been informed by one or more of their major applications software vendors that, after a certain date, their mission-critical VMS-based applications would no longer be supported by the vendor. They were not told that support prices would increase, and they were not told that no new upgrades or updates to these VMS-based applications would be available (although that is certainly the case). Rather, the message from many independent software vendors is that VMS will no longer be supported. In discussions with leading ISV's, HRG has confirmed a lack of interest in VMS in favor of operating systems such as NT and even UNIX. As one ISV put it, "there was a tangible drop in sales opportunities for the VMS platform after Digital started losing money by the bucket full. Why should I support a shrinking market?"

With its dramatic increase in the cost of VMS licenses for what is perceived to be "old" technology, the message from Digital is, apparently, that the low-end OS is WindowsNT on Alpha and OpenVMS for high-end Alpha clusters. Digital may be inadvertently forcing ISV's and customers alike away from its core product. Certainly there are many options besides Digital for an NT solution, and now that Intel has taken over Alpha manufacturing, how does Digital truly differentiate itself? And with other robust clustering solutions available, notably the IBM RS/6000, which several sites in our survey had migrated to, staying with VMS becomes more and more problematical. The question remains, why should an ISV or end customer put its bet on a proposition that is losing ground in the face of significant and well-financed competition?

Analysis of VAX/VMS Migration Options

VAX/VMS customers faced with the prospect of changing platforms can migrate to one of Digital's newer platforms or switch to another vendor. As we have noted, our survey of 209 companies showed that of the 28.3% planning a migration (59 companies) only 17% (10 companies) will be to a Digital platform (down from 34% in 1994). When asked about migration plans, the companies planning to move away from Digital (49 companies) gave a variety of respondents, from specific vendors and products (e.g., IBM RS/6000, AS/400, HP 9000, Sun) to platforms (e.g., NT, UNIX, client/server).

From our in-depth interviews (conducted with companies already undergoing a migration) several with VAX clusters noted that they favored the RS/6000 as a cluster replacement, indicating that NT and other UNIX solutions weren't up to the task.

Specific reasons respondents gave for either staying with Digital or switching are noted below:

VAX/VMS to Alpha - Customers typically remain with Digital for a variety of reasons:

- Reliability of Digital systems
- Capital investment in current Digital equipment not yet recovered
- New support infrastructure and training costs would be prohibitive
- Time and/or personnel required for migration not currently available
- Major applications are platform-dependent
- Current skill sets are applicable
- Digital's relationship with Microsoft is perceived to be good for the customer
- Ability to mix VAX and Alpha in clusters
- Speed, capacity and availability of clusters
- Unwillingness to change.

Note that many of the reasons customers stay with Digital are due to non-technology factors that fluctuate over time, such as available personnel and skill set. Customers may love Digital's technology but be "forced" into switching for reasons other than technology.

VAX/VMS to UNIX, Intel, NT, and Other non-Digital Platforms - By far the vast majority of VAX/VMS sites that have plans to migrate will switch to a non-Digital platform. Some of these sites are being "driven away" from Digital due to factors such as escalating costs or the inability to find required VMS specialists; others are being "pulled" by newer technology (applications, OS). Most often, respondents tell us that they are motivated by a combination of the two. Reasons Digital users tell us they are moving to a non-Digital solution include the following:

- Cost of VAX/VMS ownership (maintenance, service, operations, etc.) exceeds the value provided

- Concern regarding Digital's ability to survive, let alone execute the "New Digital" strategies of the last several years
- Belief that Digital has sold off too many core assets to remain a true systems contender
- Uncertainty over Digital's direction and commitment to the customer
- Want to get away from a proprietary, platform-dependent environment
- Growing lack of ISV support and new applications
- Other vendors offer newer and more robust technology
- New VMS licensing costs are "excessive"
- Other UNIX vendors offer broader support and services (AIX, HP-UX, and to a lesser extent SCO, DG-UX)
- New corporate IS standards dictated another vendor
- Difficulty in obtaining experienced VAX/VMS personnel.

From the above list, it is clear that Digital faces many challenges if it wants to stem the tide of defections. Some of the problems noted are of Digital's own doing, others have more to do with the competition, which is more than happy to provide a red carpet to attract the VAX/VMS installed base. HRG has found that many customers want to stay with Digital but can no longer justify such loyalty on the hope that the company will turn itself around. Many customers indicated that after years of remaining in Digital's camp, the situation got to a point where they were "forced" to make the hard choice of moving to another vendor. The Y2K issue has caused many companies to take a hard look at their commitment to Digital, as companies have little time to wait.

Migration Concerns Uncovered During HRG's Research

In follow-up interviews with sites that had reported a migration from one OS to another on either a related platform (VMS to Alpha OpenVMS), or to another OS on a related or different platform (VMS to UNIX), a number of concerns and problems were identified:

- The majority of sites (67%) reported that the migration process was "more difficult" than expected. 11% reported that the process was "about the same" as expected; 22% reported that the migration was "easier than expected."
- VAX/VMS to Alpha OpenVMS was a relatively easy migration.
- Older versions of COBOL used in legacy programs whose code bases had not been updated to newer releases over time were much more difficult to update to newer versions of COBOL, but the task was not impossible.
- DBMS-based applications were easier to migrate than applications written in COBOL or FORTRAN.
- Character-based applications were extremely difficult to migrate, involving extensive rewriting. The conversion required much more time and resources than initially expected.

- Lack of IP hooks in VMS and OpenVMS is problematic for intranet and Internet integration of new applications and/or implementation of corporate Internet strategy.
- Many third party custom applications developers do not maintain good source code archives or are unable to deliver source code at project completion. This resulted in having to rewrite much software completely from scratch.

HRG Conclusion

Having followed the trials and tribulations of Digital for many years now and spoken to thousands of people within the Digital fold (customers, ISV's, VAR's, distributors, consultants, etc.) over that time, HRG views Digital's current situation as nothing less than a full-blown crisis. Loyal customers and ISV's alike are leaving, and there is little in the way of new product to attract new ones. Financial stability is fleeting, and each new turnaround has thus far been met with an unforeseen roadblock. How long can such a roller coaster ride continue? Digital's user base is clearly vulnerable to a wide range of competitors who offer less expensive open systems with a wide variety of robust applications, and they are eagerly signing up customers who are dissatisfied or even angry at Digital.

There is one area of hope, however, and it may inadvertently prove to be a key to Digital's salvation. Digital's core strengths in networking and high-end servers place it in a good position to capitalize on the Internet-fueled demand for web-enterprise computing. Far from being a dinosaur, "big iron" is alive and well. Certainly there are other vendors who may lay claim to the same networking and server heritage, but Digital's relationship with Microsoft gives it an important advantage for the time being. Digital's service and support organizations are claimed by Digital to be among the best in the industry, and the company further claims that they can tie together disparate offerings for global customers. The key question is, can Digital effectively execute on such a strategy? Does it even have a strategy? We are not sure, given the misfortunes of the 90's. In our view, the jury is still out. Meantime, competitors and customers are not sitting still.

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For more information contact Harvard Research Group as follows:

Harvard Research Group™
295 Stow Road
Harvard, MA 01451 USA

Tel. (978) 456-9229

Fax (978) 456-8689

e-mail hrg@hrgresearch.com

<http://www.hrgresearch.com>
