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Comptroller General
of the United States

Washington, D.C. 20548

Decision

Matter of: Digital Controls Corporation

File: B-255041.2

Date: March 28, 1994

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Shawn A. Smith, Esq., for Data Switch Corporation, an interested party.
Diane E. Florkowski, Esq., Central Intelligence Agency, for the agency.
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DIGEST

Sole source award is unobjectionable where the agency reasonably determined through a market survey that only one source, the incumbent channel switch manufacturer, could supply the required commercial-off-the-shelf, replacement channel switches and the protester, despite being given the opportunity, failed to propose acceptable alternative solutions to satisfy the agency's requirements, in particular the agency's requirement that the replacement hardware be compatible with the existing system.

DECISION

Digital Controls Corporation protests the Central Intelligence Agency's sole source award to Data Switch Corporation of a delivery order for commercial-off-the-shelf (COTS), replacement channel switches for use in the agency's mainframe computer facility.

We deny the protest.[1]

Basically, a channel switch is used in large mainframe computer systems to channel the data path flow from the mainframes by switching the data path among the mainframes'

[1]A hearing was conducted pursuant to 4 C.F.R. § 21.5 (1993) to receive testimony regarding the agency's sole-source determination.

peripheral devices.[2] The data path runs from the mainframe through bus and tag cables to the channel switch, and then through separate bus and tag cables from the channel switch to the peripheral devices.[3] The switches themselves are described in terms of matrixes that denote the capacity of the channel switch--e.g., a 12x8 switch cross connects 12 devices to 8 other devices.[4] Channel switches allow

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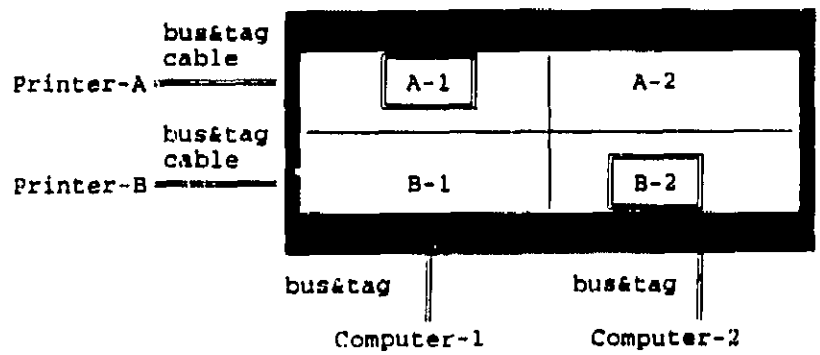
[2]Peripheral devices are input/output devices and auxiliary storage devices that are attached by cables to a mainframe computer. These devices include hardware such as communications controllers/front-end devices, scanners, printers, visual display terminals, microfiche devices, direct access storage devices (DASD), DASD controllers, etc.

[3]Bus and tag cables reside under the raised floors of mainframe computer rooms and are very bulky. Hearing Transcript (Tr.) at 22. They consist of two multi-wire cables bundled together with one large multiple contact/pin connector at each end of the bundled dual cable. A bus and tag cable essentially serves to extend a computer's bus architecture (i.e., data path). A bus is a common electrical pathway consisting of parallel wiring that interconnects the computer's hardware devices (processors, memory banks, peripherals and control units); a two-channel bus uses one channel, known as a data bus, to send data between the computer's hardware devices (e.g., between memory and the processor) and another channel, known as the address bus, to designate the locations in memory that will be involved in the data transfer. Tr. at 16.

[4]As indicated in the drawing below depicting a 2x2 channel switch, Printer-A is connected to Computer-1 at switch position A-1, and Printer-B is connected to Computer-2 at switch position B-2. Should Printer-A fail, or need to be taken off-line for maintenance, the operator can use the channel switch to switch Computer-1 to Printer-B by selecting switch position B-1.



computer operators to pool resources,[5] Tr. at 266, and to quickly restore operations (by "going to backup") when the peripheral devices that are normally connected to a particular mainframe become unavailable because of equipment failure or scheduled maintenance.[6] Tr. at 17. The channel switch market for International Business Machines (IBM) mainframe computers, as are in the agency's facility, is small and consists of a relatively few major computer centers.[7] There are but a few channel switch system manufacturers and since their systems use proprietary components--with little or no interchangeability--it is rare to encounter more than one manufacturer's equipment in a given computer center's switching system.[8] Tr. at 268. Moreover, since IBM's September 1990 introduction of a new channel architecture called ESCON ("Enterprise Systems Connectivity") that is based on more efficient fiber

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[5]For example, by installing a channel switch, a user can share a single peripheral device (e.g., a printer) between two mainframe computers and avoid the cost of purchasing a peripheral device for each mainframe.

[6]Before the introduction of channel switches, if the agency wanted to use an alternate/secondary peripheral device as a backup because the primary peripheral device had failed, or required maintenance, the agency had to physically unplug the bus and tag cables running from the mainframe and replug them in the secondary device. Tr. at 15. An automatic cable switch eliminates the need to recable the primary and secondary devices because instead of running bus and tag cable directly from the mainframe to the primary device, the bus and tag cable is run from the mainframe to the channel switch, and then other bus and tag cables are run from the switch to primary and secondary devices. Then selecting alternate devices is only a matter of a computer operator at a console switching from one device to another since the devices are all pre-wired to the mainframe through the channel switch.

[7]Only the largest data processing centers--centers that have more than one large IBM processor, that run 24 hours a day, 7 days a week and have time sensitive applications--can use channel switching systems in a cost-effective manner. Tr. at 264.

[8]It appears that some computer centers run different manufacturers' equipment in what might be described as parallel switching systems--i.e., more than one manufacturer's equipment is used in the same environment, but the different manufacturers' products are run as separate systems and not merged under one control system. Tr. at 149, 162-163, 173.

optic channel technology[9] the traditional channel switch technology has waned with no new channel switch companies entering the market and few product enhancements in the past few years.[10] Tr. at 266.

The agency introduced channel switching into its computer facility 18 years ago when it installed manual IBM channel switches.[11] Tr. at 18. After 2 years of manual switching the agency recognized the need for an automatic channel switching system.[12] When IBM was unable to provide the upgrade, Tr. at 19, the agency worked closely with a company called T-Bar Incorporated, to develop an automatic channel switching control system. Tr. at 62. Thereafter, T-Bar merged with Data Switch. Tr. at 265. In 1991, Data Switch sold the agency a hardware/software package called Control Net 150[13] that provided an automated control system capable

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[9]Four or five small lightweight fiber optic lines can replace 200 to 400 bus and tag cables. Tr. at 24.

[10]Notwithstanding the IBM nature of the agency's computer facility, IBM advised the agency that it was not a potential source for a COTS replacement channel switch.

[11]The IBM manual switches used large washing machine type dials to set the switches. Tr. at 18.

[12]Automatic channel switching allows for prompt reconfiguration of a computer system into a backup mode--e.g., rerouting around failures--to get time sensitive applications back on line. This feature is important where as here the computer facility is spread out, and considerable time is required to go to the individual switches and manually dial in new backup configurations. Tr. at 19. Another reason for this automation is because the channel switches are infrequently used and an automatic switch is easier to operate, and easier to remember how to operate, than a manual switch; of course, the ideal situation is to have the switching automated to the point that it is transparent to the computer operator and consequently requires little or no human intervention. Tr. at 267-269.

[13]Data Switch designed Control Net 150 to work with its existing and previous products that required the presence of an Data Switch 3164 color terminal to function properly. To accomplish this, Data Switch modified a Sun 386i computer and its proprietary version of the UNIX operating system to bootstrap to a 3164 terminal instead of a Sun monitor. Tr. at 246. These modifications preclude the use of software designed to work on a standard Sun workstation in

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of controlling all the agency's switches, specifically the Data Switch Model 3232 channel switches, and the agency's Data Switch Model 3934 remote enable/disable interface switches.[14]

The agency reports that in 1991 it started exploring the possible uses of ESCON, and established contacts with Digital (as well as Data Switch) to discuss both Digital's channel switches and Digital's new ESCON equipment.[15] Tr. at 89.

The agency began the process of determining its minimum needs for replacement channel switches in the spring of 1993. Tr. at 89. The 3232 channel switches required replacement because they were fast approaching the end of their useful lives, Data Switch no longer manufactured

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[13](...continued)
a standard UNIX environment. Tr. at 247. Moreover, working around the modifications to run Control Net 150 with another application would require "significant knowledge of how the hardware was configured and how . . . [Data Switch] software application communicates to the hardware components and the I/O [input/output] components." Tr. at 247. This knowledge is not generally available. Tr. at 247.

[14]The 3934 switches are 8x16 matrix switches with 128 possible cross points. The 3934 switches are extremely reliable switches that are connected to the peripheral devices with simple signal cable and have no direct connection to the mainframes. The 3934 switch was developed by T-Bar to perform the remote interface control function of an IBM 3814, Tr. at 219, and allow computer center operators to remotely enable and disable interfaces on peripheral devices (e.g., the agency has more than a hundred 3880 disk controllers scattered throughout its facility, Tr. at 23) from the agency's control center. Since the 3934 switch is hard-wired directly to each controller, it is possible to use the 3934 to remotely disable ("take it off line") a single controller in the middle of a daisy-chained line of controllers. Tr. at 21.

[15]Digital's sales representative recalls initially contacting the agency "in the 1986, '87 time frame, very general in terms of trying to provide them information" that included a visit by two agency representatives to Digital's facility in Ohio. Tr. at 165. The initial contact was followed up on a monthly basis, especially as Digital's ESCON product line began to evolve. Tr. at 165. The sales representative states that the agency initially approached him concerning the replacement channel switches in November 1992. Tr. at 165.

replacement parts, and the stock of existing spare parts was dwindling to the point that, in the event of a major failure, parts availability was questionable.[16]

To further complicate matters, the physical replacement of the 3232s with new switches has to take place over at least a year, Tr. at 94, because the agency's computer center supports critical time-sensitive applications for senior government policymakers, Tr. at 14, and there are certain priority processing applications currently underway that cannot be disrupted. Tr. at 94. So, notwithstanding the arrival of new replacement switches, the agency would have to maintain the ability to control the remaining 3232s until all of the 3232s were actually replaced. At the same time, the agency is in the process of migrating to an ESCON architecture that will, when completed, eliminate the requirement for either the replacement channel switches or the 3934 remote interface switches.[17] Tr. at 24.

It was apparent to the agency that Data Switch, which had supplied the existing switches, could supply replacement channel switches for the obsolete Model 3232s with Data Switch's Model 1800s, which were available on Data Switch's General Services Administration (GSA) schedule contract. In May 1993, the agency told Digital's sales representative of its intention to replace the 3232s in the 1994 fiscal year and sought information on Digital products that might meet

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[16]The agency reports that Data Switch maintains the current inventory of 3232 switches by cannibalizing customer trade-ins of used 3232 switches for parts.

[17]The ESCON capability extant in the agency's mainframe computers--through a device called a director--works directly with the ESCON capability found in the newer peripheral devices. Tr. at 24. Instead of upgrading its older peripheral devices, the agency is laying fiber cables and waiting until it is time to replace its older peripheral devices and then bringing the new ESCON peripheral devices on-line in an ESCON mode tied directly to the mainframe's directors and by-passing the switching network. During this migration the mainframes will remain tied to the older peripheral devices via the channel switches with bus and tag cables. The agency wants the new channel switches to be able to interface with fiber optic cable should the need arise.

its needs.[18] Tr. at 90. The agency gave Digital a list of the various channel switch sizes that it was interested in and Digital, in turn, provided the agency with promotional literature, a proposed configuration, and pricing based on Digital's GSA schedule contract. Tr. at 91.

Fiscal year 1993 funds unexpectedly became available for the replacement channel switches in early July. Tr. at 91. On July 7, agency technical personnel met to decide exactly what features they wanted in the replacement channel switches in order to conduct a market survey of possible sources other than Data Switch. Tr. at 92. Basically, it was decided that the agency should seek replacement channel switches with: (1) the ability to run ESCON;[19] (2) upgradeability;[20] (3) advanced diagnostic features;[21] and (4) compatibility with the existing switching system, including its hardware and its control system. Underlying these four requirements were three unstated, but understood,

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[18]Digital's sales representative remembers this happening in February 1993 at a meeting at the agency where he was told that:

> "[T]hey were looking to replace their existing channel switches, their 3232s, and that they just wanted to gather information as to what Digital Controls had and how we could provide it and hopefully solve their requirements." Tr. at 166.

[19]Inside channel switches there are printed circuit cards, or boards, that have interface ports. The normal interface is a parallel port interface compatible with a bus and tag cable. The agency wanted to be able to swap out the normal board and replace it with an ESCON converter board that has a serial port interface compatible with ESCON fiber optics cables. Tr. at 92.

[20]Essentially, the agency wanted a channel switch designed to accommodate small incremental increases in size/capacity as needs changed. Since channel switches are priced by size (the larger the switch--i.e., the more cross connections--the more expensive, Tr. at 99), buying switches that only came in one size forced the agency into a situation where it either: (1) bought just the right capacity and then had to turn around and buy another switch as soon as additional demands were placed on the system, or (2) spend more than it needed to spend to purchase a switch larger than it required that it could then grow into. Tr. at 93.

[21]The agency performs its own first-line troubleshooting and wanted as much help, in the form of diagnostic tools, as it could get built into the switch. Tr. at 92.

requirements, namely that the replacement channel switches: (1) not increase the complexity of the agency's current system,[22] (2) not increase the risk already faced by the agency,[23] and (3) be COTS units currently running in another computer facility.[24] Data Switch's 1800 switches met the foregoing requirements.[25]

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[22]Digital's sales representative testified that he understood that the agency did not want the replacement switches to increase the complexity of its current system:

> "One of the requirements that they had was ease of use and being able to offload as much work as they could off the operation staff. Every data center works the same way. They never want to introduce anything more complex." Tr. at 177.

[23]An agency representative testified that the unstated requirements were "basic, common sense things" that had the characteristics of both evaluation factors and go/no go requirements and that if the agency viewed a solution as adding risk to the current configuration it "could be a show-stopper." Tr. at 121.

[24]Digital's sales representative testified that he understood that the agency was looking for a COTS solution so as to lessen its risk:

> "[T]hey wanted to use commercial off the shelf. They did not like to get into development, and I mean, I agreed with them. Any time you can buy anything COTS, I think your exposure for risk certainly lessens." Tr. at 196.

[25]Digital has questioned whether the Data Switch Model 1800 channel switch complies with the requirement that it be ESCON compatible. The record shows that this requirement could be satisfied by switches that are capable of having their current bus and tag cable, parallel interfaces replaced with fiber optic cable, ESCON converters at the board level. Our review confirms that the Model 1800 satisfied this requirement. While Digital makes much of the fact that because of limited funds the agency ultimately also acquired a single Data Switch Model 1200 channel switch, which does not fully support the ESCON architecture, this does not belie the basic agency requirement for ESCON compatibility, given that this single Model 1200 represented a very small part of the total channel switch requirement.

Previously, Digital basically proposed to switch out the 3232 switches and replace them with Digital's 5001/E channel switches, an associated console, and software (hereinafter Solution 1). Based on its review of Digital's descriptive literature, the agency determined that Digital's switches met three of the four stated requirements, but was concerned about Digital's ability to meet the requirement that the channel switches be compatible with the existing Data Switch switching system. Inherent in this concern was the agency need to retain its current software control system feature of presenting the agency computer operator with a single system of commands (i.e., command format) applicable to all of the switches in the agency's switching system. The agency viewed Digital's Solution 1 as unacceptable because it increased the complexity of the existing control system by requiring the agency's operators to use two control systems instead of one. In this regard, Solution 1 would have the existing Data Switch control system and console continue to control the 3934s that would remain, and the 3232 channel switches until they were all phased out, while a separate Digital control system and console would be needed to run the proposed new Digital switches. The agency decided to meet with Digital to see if Digital could resolve the agency's concerns.

On July 16, the agency met with the Digital sales representative and advised him of the requirement that the replacement channel switches be compatible with the existing switching system's hardware because the agency intended to continue using the 3934 remote interface switches, even after all the new channel switches were installed. The agency explained that a compatible replacement channel switch should operate under a single control system that would control all of the agency's switching hardware, including the 3934s and the 3232s while they were being phased out. Tr. at 94-96, 118. The agency further advised that Solution 1 was unacceptable because a second control system running parallel to the existing control system added complexity and risk to the current configuration. Tr. at 96.

The sales representative testified that he was surprised by the rejection of Solution 1 and the imposition of the compatibility requirement because government agencies usually replaced all of their switches at the same time and the ability to continue controlling another manufacturer's hardware never became an issue. Tr. at 170, 173, 193. He asked the agency to provide technical information on the capabilities of the 3934 switches to Digital technical

personnel in order to develop other options.[26] Tr. at 80-81. The agency responded that it would consider any alternative solutions in light of the complexity and risk that they posed to the agency. Tr. at 97.

On July 21, the Digital sales representative met with agency personnel and was given a detailed explanation of the nature and functions of the 3934 switches. Tr. at 174. The sales representative testified that the agency made it clear "that they wanted to operate under one control system." Tr. at 175.

On July 22, the sales representative took this information to Digital's technical representative at Digital's Dayton, Ohio facility, and they discussed possible solutions to meet the agency's compatibility requirements and formulated proposed Solutions 2 and 3. These individuals then entered into a conference call with the agency; at no time did Digital submit a written proposal documenting these solutions. During a July 22 conference call, agency technical personnel discussed their compatibility requirement concerns and Digital's Solutions 2 and 3 with the Digital sales representative and technical representative. Tr. at 182. This conference call was followed by several telephone conversations between the agency and Digital's sales representative.[27] Tr. at 176.

Digital's proposed Solution 2 supplemented Solution 1 by proposing to replace the 3934 enable/disable switches--which the agency had not intended to replace because of their reliability--with Digital's Model 34030 channel switches. This represented a technical approach different from the present configuration, where the 3934 switches were not directly connected to the mainframes but rather were connected to the various peripherals; these small 34030 switches were to be directly connected by bus and tag lines from the mainframes.

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[26]The Digital sales representative testified that he did not know that the agency's channel switching system included the 3934s and that even if his tour of the agency facility had included the areas where they were located he would not have recognized a 3934 even if he saw one. Tr. at 167, 174.

[27]The parties' recollections of these conversations are different. Neither the agency nor the protester have produced any written documentation, despite being requested to do so. The agency states that it has no such documentation while the protester states that its notes of these conversations are enclosed in boxes due to a recent move.

Proposed Solution 3 to supplement Solution 1 was not thoroughly discussed, but, as understood by the agency, it involved "the design and development of a specially manufactured switch to replace [the] current [3934] remote enable/disable switch." Tr. at 73, 100.[28] As explained by Digital's technical representative, Digital, like T-Bar before it, had developed a functional substitute for the IBM 3814 remote interface control that Digital referred to as "project BUSSTOP." Tr. at 219. BUSSTOP was a hardware device, Tr. at 222-223, that if used in the agency's system would totally replace the 3934s. Tr. at 220. That is, BUSSTOP, which has not been commercially marketed, would operate in the system as a remote enable/disable switch just as the 3934 did.

In its protest, Digital asserts that the agency obviously misunderstood and therefore did not properly evaluate Digital's Solution 3, which it asserts was actually a software solution, rather than supplying new hardware to physically replace the 3934s. However, at the hearing, Digital's technical representative explained that the software approach resulted from Digital's understanding that the agency would not allow Digital to substitute BUSSTOP switches for the 3934s, and if it could not do so, he proposed that Digital's application software--Switchnet--"can be taught to talk to the 3934s." Tr. at 219. This represented a fourth proposed solution, supplementing Solution 1, under which the existing Control Net 150 software would be replaced with Switchnet, which would be modified to operate the existing 3934s.

The agency determined that none of Digital's proposed solutions met the agency's requirements and that therefore Data Switch was the only source able to meet all of the agency's requirements. On August 10, Digital learned that the agency intended to proceed with a sole source procurement by placing a delivery order under Data Switch's schedule contract. Tr. at 184. Digital then filed an agency-level protest against the proposed sole source award. The agency advises that sometime prior to the award it prepared the written justifications for a sole source award under Federal Acquisition Regulation § 6.302-1 (only one responsible source and no other supplies or services will satisfy agency

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[28]The reasonableness of this understanding was confirmed by Digital's sales representative testimony as follows:

> "I had several phone conversations . . . over the next week as to our 34030 [Solution 2] and the possible interface, electrical interface to the relay switch [Solution 3]." Tr. at 176. [Emphasis supplied.]

requirements).[29] After the agency denied its agency-level protest, Digital filed this protest at our Office.

Digital contends that the agency should have issued a solicitation for the replacement channel switches because Digital would have submitted an acceptable offer, and that was the only way the agency could properly evaluate its available options. We disagree. In the conduct of ordinary business, preprocurement discussions with potential suppliers are clearly necessary for an agency to rationally determine just what its minimum needs are, and to survey the market to ascertain what is available or to encourage the development of sources to compete with present sole sources. Maremont Corp., 55 Comp. Gen. 1362 (1976), 76-2 CPD ¶ 181; BrightStar Comms. Ltd., B-218021.2, Sept. 16, 1985, 85-2 CPD ¶ 290. Agencies have broad discretion in determining their minimum needs as the determination of the needs of the government and the methods of accommodating such needs is primarily the responsibility of the contracting agencies of the government. Id. Here, the record shows that the agency was in the process of determining its minimum needs for replacement channel switches when it contacted Digital and Data Switch, and that the contacts with the only known possible suppliers for these items were appropriate pre-procurement discussions to rationally determine just what were the agency's minimum needs and whether they could be satisfied on a competitive basis. Maremont Corp., supra. Under such circumstances, there is no requirement that a solicitation be issued. Id.; see 52 Comp. Gen. 801 (1973).

Digital contends that all its proposed solutions would have satisfied the agency's requirements and the agency therefore did not have a legitimate sole source basis.[30] A

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[29]The agency did not publish the existence of the requirement in the Commerce Business Daily (CBD) as it asserts that its procurements are exempt from this requirement by reason of national security.

[30]Digital also protests to our Office that the agency should have considered acquiring refurbished Data Switch equipment. Our Bid Protest Regulations do not contemplate the unwarranted piecemeal presentation of protest issues. Armstrong Motorcycles Ltd., B-238436; B-238436.2, June 3, 1990, 90-1 CPD ¶ 531. This contention was not mentioned in Digital's agency-level protest. If Digital thought that the sole source justification was improper because it did not consider sources (if any) who could supply used or refurbished Data Switch equipment, it should have raised the matter in its initial agency-level protest on August 10; this issue is untimely as it was raised for the first time in Digital's protest to our Office.

sole source award is justified where the agency reasonably concludes that only one known source can meet the government's needs within the required time. Data Transformation Corp., B-220581, Jan. 16, 1986, 86-1 CPD ¶ 55. Based on our review, we find that the protester has not shown that any of its proposed solutions would satisfy the agency's requirements, and that the agency has established a reasonable basis for the sole source award.

As we noted above, the agency rejected Solution 1 because the agency required a single control system that would control all of the agency's switching hardware, whereas Solution 1 apparently contemplated a second control system running parallel to the existing control system. That is, under this solution, while the protester's control system would operate the replacement Model 5001/E channel switches, the existing Data Switch control system would be needed to operate the 3934 switches as well as the existing 3232s while they were being phased out. The agency decided that this represented an unacceptable complexity and risk, as compared to its current configuration. With two parallel systems, computer operators would have to use two command formats, which would cause an increased likelihood of procedural errors, additional training, and increased annual recurring costs. More specifically, in case of emergency, the agency wanted its computer operators to have to deal with one control system, Tr. at 39, 44, since a "controller going down can hang your system" and this problem can be mitigated if the operator has the ability to quickly disable the faulty controller. Tr. at 42.

Digital initially asserted that it could run its control software as a DOS application in the Sun 386i such that both systems could inhabit the same console.[31] Tr. at 229. However, there is no evidence of record that the Digital and the Data Switch software could cohabit in a single Sun workstation. Data Switch's technical representative testified that the Control Net 150 software in the Sun 386i has

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[31]According to the November 18, 1993, affidavit of Digital's technical representative:

> "Under . . . [Digital's] solution one, the 5001/E switches would replace the 3232 switches and appropriate applications of software to control the new switches would be loaded into the existing console to replace the now-superfluous 3232 applications control software. All control would continue to be exercised by a single console. That console would continue to run two types of applications software for two types of switches in the same manner as the existing configuration."

been modified to work with an IBM 3164 terminal and not a regular Sun terminal, Tr. at 246, so the workstation's hardware would have to be modified/upgraded before Digital's software would run on it. Tr. at 247. This would be difficult to do since the Sun 386i has been discontinued and the availability of parts and components is questionable, Tr. at 254, 256, and it would also likely render the Control Net 150 software inoperable. Tr. at 255. A further obstacle is the fact that the version of UNIX (not DOS as assumed by Digital) running on the workstation is not the standard UNIX but a proprietary version written specifically to run on the Sun 386i.[32] Tr. at 255. Finally, when the Digital technical representative was asked whether the UNIX version of its control software could be hot-keyed between the two software applications, he testified that it could not be done and the operator would have to exit one application and start the second application. Tr. at 237. Thus, while the operator was using one application he would be blind as to what was transpiring with regard to the other application. Tr. at 237.

We find nothing unreasonable in the agency's desire to preserve the functionality it currently enjoys by requiring a single unified control system for its entire switching system to reside in a single workstation. Under the circumstances, the agency had good reason for rejecting Digital's suggestion that it could bundle Digital's control software into the Sun 386i, considering that under that approach the operator would be able to access only one control system at a time, and that there is no evidence or even one example of another site that is currently running Control Net 150 and Digital's control software on a single console. Therefore, the agency properly rejected Digital's Solution 1 for not meeting the requirement that the replacement channel switches be compatible with the existing switching system.

As discussed above, Digital proposed Solution 2, supplementing its previously proposed Solution 1, in an effort to meet the compatibility requirements by eliminating the source of the incompatibility, the 3934 enable/disable switches, and replacing them with Digital's 34030 channel switches. The Digital sales representative viewed Solution 2 as good for the agency because it would allow the agency to reduce the amount of manual recabling by providing the

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[32]While Digital responded that it could configure its software under UNIX and operate in the same Sun 386i workstation, Digital's technical representative testified that this assertion was based on the optimistic assumption that "UNIX applications are pretty much UNIX application," rather than the customized software employed here. Tr. at 230.

agency with a cable switch solution for the enable/disable function performed by the 3934s.[33] Tr. at 179.

While the agency admits that Solution 2 resolved the compatibility requirement, it also involved discarding the highly reliable 3934 switches (the agency had no funding for the replacement of the 3934 switches),[34] and would increase the complexity and risk of the system to an unacceptable level, given the different way the 34030 switches would operate in the system.[35] Basically, the primary objection lay with the introduction of additional bus and tag cables, and the corresponding increase in the possible points of failure.[36]

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[33]Referencing the earlier testimony of an agency witness the Digital sales representative noted, "the reason why channel switching, as the gentleman referred to earlier, was invented, it was to reduce the manual recabling." Tr. at 179.

[34]The agency noted that the price of Solution 2 would exceed the price of an award to Data Switch by $470,000. In its comments on the agency report, Digital asserted that it intended to provide the 34030s at no cost to the government. The agency was unaware of this offer and points out in the agency report that during the July 22 conference call Digital referred the agency to Digital's GSA schedule contract for pricing of the 34030 switches. There is no persuasive evidence that such an offer was made, except in pursuit of this protest.

[35]At the time it rejected this solution, the agency was under the erroneous impression that the 34030 was a manual channel switch, rather than the automatic switch it was replacing--which is obviously an unacceptable solution because it would negate a primary purpose of the switch. Tr. at 103. This belief was understandable as Digital's sales representative had provided the agency with a copy of Digital's GSA schedule that designated the 34030 as a "manual switch." Tr. at 188. Digital's sales representative testified that he could not recall whether he mentioned to the agency that by adding a remote console, also listed in the GSA schedule, the manual switches could be converted to automatic remote control. Tr. at 189.

[36]Specifically, the problem basically lies in the unwieldy bus and tag cable connectors that have a number of pins in them, which if bent during a reconfiguration of peripheral equipment can cause channel problems with the system. So where the current configuration now has a single bus and tag cable running from the mainframe to the peripherals, and a single signal cable running directly from the 3934 to the

(continued...)

Tr. at 103. This doubling of bus and tag cables under the computer room floor was not what the agency wanted, as one agency representative testified:

> "It didn't make any sense to go to this environment especially since our strategy is to eliminate all of this cabling under the floor and go to the fiber. To double it, to me, it's an option that didn't take long to determine that that wasn't a viable option." Tr. at 104.

Indeed, Digital's technical representative candidly observed that, "Solution 2 is certainly not an elegant solution compared to what they even have now," Tr. at 232, and that

> "there's good points to it but it's certainly not the solution that I would have picked to do what they wanted to do. That was something that . . . [the Digital sales representative] had said they might like so we went ahead and went for it." Tr. at 233.

Solution 3, which proposed supplying BUSSTOP to replace the 3934s, was clearly unacceptable because BUSSTOP has never been used in a commercial facility. Tr. at 221. Digital's technical representative testified with regard to BUSSTOP that

> "[t]his one particular function or product, we have never really sold. It was developed. Nobody wanted it. We had several on the shelf. I believe we scrapped them two years ago, but it was a tested product and it worked." Tr. at 221.

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[36](...continued)
peripheral with no mainframe connection, Tr. at 102-103, use of the Digital 34030, as proposed by Digital, would double the number of bus and tag cables because the 34030 would be connected by bus and tag cable resulting in (1) a bus and tag cable with its two connectors running from the mainframe computer to the 34030, and (2) a second bus and tag cable with its two connectors running from the 34030 to the peripheral device. Tr. at 103-104. While Solution 2 eliminates the 3934's signal cable, this is not significant and adds nothing to the merit of the proposed solution because the signal cable presents "no risk of channel problems . . . because it's not connected to a channel. So it's totally isolated." Tr. at 103.

We see nothing unreasonable with the agency's rejection of this solution since it did not meet the COTS requirement.[37]

Finally, with regard to Digital's software Solution 4, first elaborated on in its protests, we note that the record reasonably shows that this solution was not clearly presented to the agency prior to placing the order. The agency's representatives testified that it never heard the term "Switchnet," an aspect of Digital's control system, as part of Digital's solution until the protests were filed. Tr. at 111.

As indicated above, Digital would accomplish the solution of a single control system by writing some code so that its Switchnet control system could talk to the 3934 switches. However, the record shows no evidence that such an approach had ever been successfully accomplished, and Digital offered no examples of situations where its control system has been modified to operate switches manufactured by another supplier, such as Data Switch. When Digital's sales representative was asked how the code that Digital would have to write--to interface between the system's hardware level and software level--could be considered COTS when the code had never been written before and consequently had never been used anywhere, his only response was, "that's a good question. I don't know whether it does when you look at that." Tr. at 197. Thus, this solution also does not meet the agency's requirements.

In sum, we believe the agency properly exercised its broad discretion to determine its minimum needs by requiring replacement switches that were compatible with the retention of a single control system over all the switches. In our view, the record, including the hearing, shows that the agency correctly determined that Digital's proposed switches and associated software control systems were incompatible with the current Data Switch switching system's hardware and control software, or otherwise could not satisfy the agency's requirements. The record also shows that only Data Switch could satisfy the agency's replacement channel switch requirements.

Among other things, Digital has also objected to the agency's failure to publish notice of the proposed sole source in the CBD. However, a potential source that has actual knowledge of a proposed sole source and an opportunity to participate in the agency's determination of its

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[37]The agency reminded Digital that any solution had to be COTS and "running someplace else" because the agency didn't "believe in being the guinea pig for any new projects." Tr. at 100.

minimum needs is not prejudiced by the absence of a CBD synopsis.[38] See National Customer Eng'g, B-255615, Mar. 9, 1994, 94-1 CPD ¶ ___; Pauli & Griffin, B-234191, May 17, 1989, 89-1 CPD ¶ 473; Tri-Com, Inc., B-214864, June 19, 1984, 84-1 CPD ¶ 643.[39]

The protest is denied.

for Ronald Berger
Robert P. Murphy
Acting General Counsel

[38]Digital advances a number of arguments that the sole source justificatior was procedurally deficient, e.g., it was undated. However, since we find the sole source award was justified, Digital was not prejudiced by any of these alleged defects. See The Entwistle Co., B-249341, Nov. 16, 1992, 92-2 CPD ¶ 349.

[39]Digital also argues that the order against Data Switch's schedule contract exceeded the maximum order limitation. We need not address this issue because Digital is not an interested party under our Bid Protest Regulations, 4 C.F.R. §§ 21.0(a), 21.1(a), to raise it, given our conclusion that the sole source award to Digital was properly justified. See Space Vector Corp., B-252295.2, Nov. 8, 1993, 93-2 CPD ¶ 273.