

## Homesteading: Plan for the Future

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Because of the announcement on November 14, 2001 by Hewlett-Packard of the end of sales and support of the HP 3000 product line, MPE/iX customers have had to assess their future MIS directions. There are a variety of choices open to these companies. The main challenge is to make the proper choice and plan for the future. There is no need to panic and make hurried decisions. The HP 3000 platform with the MPE/iX operating system is a very reliable and stable platform with lots of flexibility and a user-friendly operating environment. It has been a popular system of choice for many companies, large and small, throughout the world.

The strategic planning process for the future is very important to the success of a company and the achievement of their long-term goals. Market place and technology changes will dictate that the company be flexible and have a well thought out direction defined. Without a comprehensive MIS strategic plan, continued survival of a company will be difficult.

The concept of homesteading comes from the 19<sup>th</sup> century United States law and practice of people moving west to settle the open public lands available. These rugged settlers had to endure many hardships to have a 160-acre plot of their own to cultivate and raise a family. Often they were far from their nearest neighbors and had to fend for themselves. My mother's family used the land runs in Oklahoma territory to acquire land for their settlement. We still have several pieces of family furniture in our house that were in their wagons used for the Run.

This concept applies to the HP 3000 site that will continue to provide self-support for the platform long after the support from HP is gone. Since their announcement, HP has not shown to be proactive in providing the kind of support you have been used to in the past. But you don't have to be left out in the wilderness on your own if you apply the information in this article.

This article addresses the situation of companies who will not migrate to another platform until sometime in the future, if ever. Having a well-maintained systems environment is always essential to good corporate responsibility. We will discuss the choices the company has available and what planning steps they need to take to properly face the future. Proper systems management information contained in a Systems Manager's Notebook is needed to recreate the existing configuration in the event of an emergency or to use in a future migration project. Hardware and software support, backup strategy and training, MPE/iX version considerations, and business issues will be explored, too.

There are several choices available to a company with one or more HP 3000 systems installed in their organization. These are:

1. **Rehost** - Convert the applications to run on another hardware platform under a new operating system. The existing program logic that you spent a lot of time and money to

develop is retained using the original programming development language. All command files and job streams must be converted to the new environment and the data files are converted to a new database format. Your users and support staff will have a low retraining effort and your migration costs won't be too large.

2. **Replace** - New applications can be purchased from third party developers. These purchased applications can come from a variety of companies. The only conversion that has to be done is the corporate data. The search process to find the new applications can be very time consuming and frustrating. The new applications may not do business the way your company has done in the past so the company has to change or some customization has to be done. This can be disruptive and costly. You will be dealing with companies you don't have a past history with in the areas of support and stability. Your users and support staff will have a high retraining cost along with your migration expenses.

3. **Rewrite** - Develop new applications to replace the current ones. You can explore new technologies that are available in the market place. This gives you a lot of flexibility to redesign the existing systems. But the downside is a large labor cost and a hope that the technology direction you have chosen is correct long term. Your users and support staff will have a high retraining effort. This is probably the most expensive and disruptive choice available.

4. **Abandon** – Any obsolete systems can be shut down. The reasons are some systems are not needed because of the changes in corporate requirements, a business unit is going away, or applications are being consolidated. Very little costs are associated with this choice except for data consolidation or archiving.

5. **Stay** – A company can choose to continue to use the HP3000 platform, or “Homestead”, as it has in the past. Applications can still be upgraded to utilize some new technologies that are currently available with the MPE/iX operating system without a lot of expense. Support is available from HP for some of the hardware and software releases through December 31, 2006. Third party support is readily available, also. Long-term, third party software product support is advertised by the various vendors, but you must continue to maintain contact with them. This is a low cost, but increasingly higher risk, option.

6. **Outsourcing** – Applications, staff, and systems management can be outsourced to a third party covering all the existing applications. This is a homesteading option that puts the management responsibility on the third party. Proper oversight of the outsourced operations by your company is vital.

7. **Combination** – Several of the above choices can be combined in the final solution to provide the best of each that meets the company goals and objectives.

The Systems Manager Notebook is vital to the proper management of any HP 3000 site and consists of many parts. Every site should have one because it contains critical hardcopy information to back up the information contained on the system. It is part of the Disaster Recovery Plan that should be in place and is used to manually recreate your environment. You can't have too much information in it. The pages in the Gold Book supplied by HP with each system should be used to record ongoing details about each system. All parts of the notebook have to be kept current at all times. This information will be valuable when migrations are planned in the future.

The Notebook will contain the following as a minimum:

1. Hardware model and serial numbers
2. License agreements for all software and hardware
3. A copy of all current maintenance agreements
4. Equipment warranty information
5. Complete applications documentation of program logic, data file layouts, and system interaction
6. Operator run books and other documentation
7. Complete listing from SYSINFO.PRVLX.TELESUP for system configuration
8. SYSGEN Listing of Paths, Devices, Logging, and Miscellaneous sections for system configuration, system logging events, and miscellaneous settings
9. Listing of HPSWINFO.PUB.SYS for operating system release, system software release, and patch history
10. Listing from DSTAT ALL for system volume set configuration
11. Listing of NPCONFIG.PUB.SYS for networked printer configuration
12. Listing of NMMGR.PUB.SYS files for DTC and network interface configuration
13. Listings of various NET.SYS files (SERVICES, PROTOCOL, HOSTS, INETDCNF, and RESLVCNF) for ARPA services and network configuration
14. Listing from SIU, a systems inventory utility from the HP JAZZ web site for the HP installed software subsystems
15. Listing from PSSWINVP.PRED.SYS for the HP installed software subsystems
16. Listing of REPORT @.@ for the accounting system configuration
17. From BULDACCT.PUB.SYS, a listing of BULDJOB1 for MPE commands to rebuild the accounting system structure and settings and a listing of BULDJOB2 for the MPE commands to rebuild the COMMAND.PUB.SYS file settings. Protect the access to these files as they contain passwords!
18. Backup \$STDLIST from each full backup which could be kept on tape to look up files that were backed up
19. Third party software installation codes in case the system processor card has to be replaced or upgraded
20. HP and third party vendor support phone numbers
21. Hardware and software historical records
22. Preventative maintenance schedules and instructions
23. Terminal and PC configurations either printed for terminals and on disk for the PCs
24. Operating System and patch release history recorded in the Gold Book
25. Listing of SHOWVAR HP@ to get system serial number, user limit, and other system settings

Additional documentation and manuals:

1. MPE/iX Software Maintenance Manual
2. Patch/iX and Stage/iX documentation
3. MPE/iX release Communicators
4. MPE/iX 5.5 Documentation CD that has some obsolete manuals not available anywhere else
5. Latest MPE/iX Documentation CDs for all current manuals

Some on-line resources that are available for reference are:

1. HP base site- [www.hp.com](http://www.hp.com)
2. HP manuals - [docs.hp.com](http://docs.hp.com)
3. The 3000 Newswire monthly newsletters for the best news and information source - [www.3000newswire.com](http://www.3000newswire.com)
4. HP3000-L discussion list for technical help- [listserv@raven.utc.edu](mailto:listserv@raven.utc.edu)
5. HP JAZZ site for utility programs and job streams - [jazz.external.hp.com](http://jazz.external.hp.com)
6. INTEREX users group organization for news and conference information - [www.interex.org](http://www.interex.org)
7. OpenMPE organization for the latest news on the OpenMPE movement- [www.openmpe.org](http://www.openmpe.org)
8. Most third party vendors have their own site

HP's end of support for the MPE/iX operating system is December 31, 2006 or earlier depending on the particular release. MPE/iX 6.5 support is scheduled to end on December 31, 2004 and releases 7.0 and 7.5 on December 31, 2006. Many third party vendors have pledged long-term support even past December 31, 2006, but each vendor you have products from, need to be monitored periodically for their continued active support. Maintenance of in-house written applications systems has to be an active process as users still want new features and some possible bugs may be found. If insufficient staff resources are available to provide this support then consultants are available to assist your company. There are third party operating system support companies like Allegro and Beechlen that can help with MPE related questions. Application source code should be kept current for additional development and problem resolution. Upgrading to a supported version of MPE/iX may be required to add new functionality or problem resolution. A software support contract from HP is required to continue to receive the update materials. This contract is separate from a hardware support contract with HP.

HP hardware support for HP 3000 systems and peripherals ends December 31, 2006 or earlier based on the product life. The HP web site lists the end of support date for each piece of equipment. Third party support is readily available from many regional hardware support companies and even nationally from companies like Terix. You may want to stock your own parts and systems that are readily available and priced right from other customers on Ebay, the Internet, and notices on the HP3000-L list. Remember mechanical devices such as disk drives, tape drives, and printers are high failure items. HP equipment is usually very reliable and should last a long time. Upgrade to used systems with greater performance capability is always an option. I highly recommend that the inexpensive HP RAID systems, such as the model 12H or Mod20 be used to provide hot swap capability without long downtimes from JBOD arrays. They are bootable and provide mirroring of the system volume set and user volume sets.

A backup of data files and the system files (CSLT) should be done regularly. I always tell people that the system downtime and amount of data loss you can afford to suffer should dictate the frequency and type of backup. You can't look at a backup tape or the resulting listing from a backup process and be assured that the tape set is good. Use multiple drives

for the backup process so that you can be assured that the backup you just made is readable on another drive. Backup should be done to one drive and verification on another. DDS drives are not as reliable as you may think and can easily drift out of alignment. A tape you make today may not be able to be read by that drive a few weeks or months later.

Verify data backups with VSTORE.PUB.SYS. It only checks that the tape media is good and the files on it can be read. It doesn't compare the files on the tape with the files on disk. Since a CSLT takes only about 20-30 minutes to make regardless of the amount of disk files you have, this process adds little to the time it takes for a backup cycle. You should make one at least every other full backup cycle. Verify the CSLT with CHECKSLT.MPEXL.TELESUP. Use a proper, secure storage environment and don't use the tapes more often than recommended by the manufacturer. Run BULDACCT.PUB.SYS prior to each full backup to create the BULDJOB1 and BULDJOB2 files so that they will be included on the backup. Remember that they contain passwords and should be purged after the backup. Consider DLT technology for faster and more reliable backups.

Keep your users and technical staff trained on all aspects of your environment. Education should include technical topics as well as general staff information. Formal classroom and on-site training is available from HP, third party vendors, and consultants. Utilize the training opportunities at conferences, webinars, and symposiums put on by companies you have relationships with. Cross training is important for staff retention, support coverage, loss of staff, and days off like sick, vacation, personal, company travel, and training. Just because you are homesteading doesn't mean your training requirements have stopped.

Making a comprehensive business case is the proper justification of action for any planning process. Study the costs for each choice or combination listed above as it applies to your situation. If you plan to migrate someday, the costs have to include many items to consider. The replacement of your current hardware systems, database systems, operating system and applications software are the starting point. You have to train your users and staff on the new environment. There is data and program conversion with testing and possibly test system hardware and it's software. You may need additional staffing and consultants with the expertise in the new environment. JCL, UDC, job streams, and command files have to be converted to a totally new format. New written procedures and documentation have to be produced.

Plan for company business growth with a comprehensive capacity planning effort. New functionality or applications may be needed over the next few years for your company to remain competitive. You have to ask if your HP 3000 meets your needs now and in the future. Government or other retention requirements may require your company to keep the existing system in operation for auditing purposes. HP and third party support availability will be very important long-term. Future budgets may be a major limiting factor in deciding if you can afford the high cost of migration.

In summary, homesteading is the least expensive choice for now but risks will get higher as time goes on. Proper systems management and being prepared are keys to the success of your company's future. **Until you can make a proper business case to migrate, stay on your HP 3000 platform. Remember, planning is critical to success.**