

Training a New Operator - Where Do You Begin?

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Introduction:

You're getting a new operator - whether replacing one that left or adding a new person - either way - they need to be trained. Where do you start? You've shown them the computer center, so now they know where it is - they're just wondering what to do with it. There's books and manuals that can bury them for months, but is that the place to start? There's operator classes at the nearest training center, but what else do they need to know about your operations and applications that they can't get anywhere but from you? How much can you throw at them and expect them to absorb?

If you live in an area where there aren't many HP shops, you could have a problem with finding anyone with HP experience - let alone anyone with operator experience on any machine. This leaves you with quite a job ahead of you. You have a capable body in front of you, eager to learn and ready to tackle anything that comes his or her way. You're wondering how to get them pointed in the right direction without scaring a resignation out of them on the first day.

I will attempt to set up a step by step guideline that any shop - no matter how small or how complex - can use, adding as they see fit to suit their particular needs. Using basic steps, a trainer can set up an outline to assure himself that he's covering all the items needed. This can be expanded as you go to include not only hardware, but also software. This should give your new operator a strong training base and you enough confidence that your department will continue to operate to it's fullest capacity.

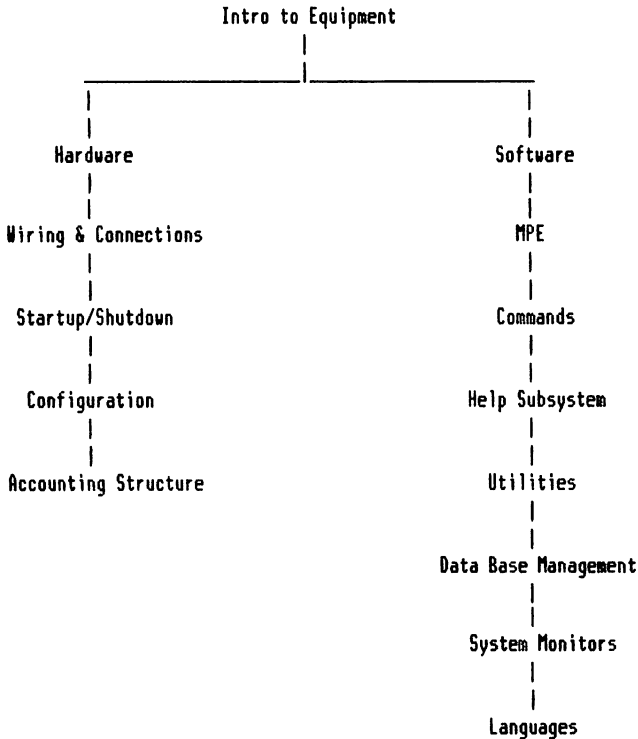
Operator Training can be and is a never-ending task. Each environment is different and must be approached from a different angle. You not only have your HP system with both hardware and software, but you also have various software packages ranging from financial system reporting to hardware monitoring tools.

There are well structured training classes offered at various locations in the U.S. by Hewlett Packard and other training facilities, along with the software training for the packages you have installed, but if it's not cost efficient for your organization to send your operators or the timing factor is not right for them to be gone, you need some type of organized training plan to get them started. Training must be an on-going process since modern technology never stops in this day and age and just keeping up with what's new in the world of computers is a never-ending battle. Once you get a basic outline of a training plan that will fit into your organization, you must keep it updated and each time it's used for new operator training, the operator's will be at an even level once they have finished.

All of my operators have been trained in-house and this type of training seems to work somewhat successfully for me. I say somewhat, because there still is the problem with keeping them updated on current issues. It is difficult to have initial training sessions with all the operators at once if you have a small data center with varied shifts, but it can be done at a much slower pace with regularly scheduled sessions during non-peak hours. A slower pace may not be quite as effective for initial training if you have an immediate need for an operator, but one-on-ones with the operator for basics is a workable method to start, then having a more intensive training session for approximately 5 to 6 hours a month with all the operators together can cover a lot of ground and get them on a more consistent level with each other. I have tried this method since my training was catch-as-catch-can to start and have gotten great results from my operators who have responded to these sessions positively.

No matter what type of background your operator has come from, there will be some type of initial training needed. If they are from an HP environment, there would be minimal training as far as hardware except for the differences in the operating system and types of equipment you use as opposed to what they were used to. Someone not familiar with HP or any computer system would have to have more extensive training as far as hardware. I have not had the pleasure to train anyone who has come from an HP environment, so my training has basically been from scratch. Training can feel like an endless job and can be so overwhelming to the trainer let alone what it seems like to the trainee. It has to be looked at as part of the everyday routine and learning so much each day doesn't make it look quite so bad.

It was difficult for me to break down the training into a set pattern for everyone to use because the software will differ with each organization, but setting up a flowchart to begin with will allow you to branch off in whatever direction necessary to completely cover all the areas needed.



HARDWARE

The first step is to get them acquainted with the equipment. Let them know all the different types of equipment you have throughout the business, and then get them accustomed to the equipment they will be working with. Start with what it is, what it does and how it's used. Also include what type of maintenance it needs, such as ribbons, cleaning, paper, etc., and who to call or when to call HP for service and if they have that privilege.

Explain what the system hardware consists of including:

1. Stack Architecture
2. Virtual Memory
3. Disc Caching
4. MPE
5. Wiring and Connections
6. Terminals and Console
7. Disc Drives & Tape Drives
8. Modems and Multiplexors

Key terms to understand:

1. MPE
2. CPU
3. GIC
4. SIB
5. ALU
6. AIB
7. RAM
8. ROM
9. Caching
10. RS232
11. RS422
12. Input/Output

Understanding of Configuration would include:

1. Term Types
2. LDEV #'s
3. Device Classes
4. Memory Allocation
5. Virtual Memory
6. System Tables
7. Volume Table
8. Directory Info
9. Programming Info
10. System Logging
11. Scheduling Info

HARDWARE (cont'd)

Understanding of the Accounting Structure is necessary:

1. Groups
2. Users
3. Accounts
4. Capabilities
5. Homegroup
6. Lockwords/Passwords

SOFTWARE

What is MPE and what does it offer:

1. Configurator
2. Power fail/Auto restart
3. Backup/Restore Facility
4. Logging Facility
5. Utility Intrinsic
6. Loader
7. Segmenter
8. Process Manager
9. Job/Session Scheduler
10. Spooling Facility
11. Tape Labels Facility
12. Serial Disc Interface
13. Private Volumes Facility
14. Disc Space Manager
15. Virtual Memory Manager
16. Input/Output System
17. File Management System
18. Command Interpreter
19. Application Message Facility
20. System Console Manager
21. Initiator
22. Support for Disc Caching
23. Batch Processing

Show them how to use the help subsystem, how to use the MPE Quick Reference Guide and what HP manuals to read. Have them know where to look and find pertinent information regarding the MPE Message System, the configuration guidelines for setting up system tables, and the different subsystem utilities.

MPE Commands most commonly used:

- | | | |
|---------------------|-----------------|-------------------|
| 1. ABORT | 26. JOBFENCE | 51. SHOWJCV |
| 2. ABORTIO | 27. JOBPRI | 52. SHOWJOB |
| 3. ALLOCATE | 28. LIMIT | 53. SHOWLOG |
| 4. ALLOW | 29. LISTF | 54. SHOWLOGSTATUS |
| 5. ALTACCT | 30. OUTFENCE | 55. SHOWME |
| 6. ALTGROUP | 31. PURGE | 56. SHOWOUT |
| 7. ALTJOB | 32. RECALL | 57. SHOWQ |
| 8. ALTSPoolFILE | 33. REDO | 58. SHOWTIME |
| 9. ALTUSER | 34. RENAME | 59. SPEED |
| 10. BREAKJOB | 35. REPORT | 60. STARTCACHE |
| 11. BUILD | 36. REPLY | 61. STARTSPOOL |
| 12. BYE | 37. RESETACCT | 62. STOPCACHE |
| 13. CACHECONTROL | 38. RESTORE | 63. STOPSPOOL |
| 14. CONSOLE | 39. RESUME | 64. STORE |
| 15. DEALLOCATE | 40. RESUMEJOB | 65. STREAM |
| 16. DELETESPOOLFILE | 41. RESUMELog | 66. STREAMS |
| 17. DISALLOW | 42. RESUMESPOOL | 67. SUSPENDSPOOL |
| 18. DOWN | 43. RUN | 68. SWITCHLOG |
| 19. EDITOR | 44. SAVE | 69. SYSDUMP |
| 20. FDCOPY | 45. SETCATALOG | 70. TELL |
| 21. HEADOFF | 46. SETJCV | 71. TELLOP |
| 22. HEADON | 47. SHOWALLOW | 72. TUNE |
| 23. HELLO | 48. SHOWCACHE | 73. VINIT |
| 24. HELP | 49. SHOWCATALOG | 74. WARN |
| 25. JOB | 50. SHOWDEV | 75. WELCOME |

Utility programs, standard with each system and their use:

1. Edit/3000
2. FCopy/3000
3. Sort-Merge/3000

What types of Data Base Management used:

1. Turboimage/3000
2. Query/3000
3. Ksam/3000
4. VPlus/3000
5. Adager

System Monitors:

1. OPT/3000
2. APS/3000
3. S005E
4. Tuner
5. Surveyer
6. TERMSM

Languages used:

1. COBOL II
2. RPG
3. FORTRAN
4. BASIC
5. PASCAL
6. SPL
7. C
8. TRANSACT/3000

They will need to know how to monitor the system and manage jobs, sessions and spoolfiles. This would include the use of SPOOK, UDC's, STREAM, file types and equations.

It will be necessary for them to know how to start and shutdown the system and what processes are necessary in your environment. This area would also include what to do when there is a system failure or halt, ie: is there a downtime log or failure/halt log to complete, who to call, what steps are needed before startup such as string dumps, memory dumps, and what type of recovery is needed. They should know the difference between Warmstart, Coolstart and Coldload and the importance of each. What is a Reload and when and why should it be done? How should it be done? What can be done to save data when a system is down and there is no current backup available? What is a sysdump and why is it done? What types of backup are there?

These are all good topics to cover and periodically these types of questions can be put together in a test format and given to the operators. I have several of these and give them to my new operators to use as a worksheet or a learning tool. They have the manuals to use for answers and it forces them to find the answers and know where to look for them. It can also show you weak areas that may need to be covered in future training sessions. Some of the questions that I have for them are:

1. What are the four parameters that can be used with the ALTSPoolFILE command?
2. What command would you use to log off only session 211?
3. What command would you use to abort job 21?
4. What is a UDC?
5. What are two ways that spoolfiles can be deleted (purged)?
6. How can you raise the priority of a JOB in the WAIT state?
7. The OUTFENCE is set at 14. How do you print spoolfile #0412?
8. How do you find the filenames for all files that begin with the letter S, that are in the SYS account and the PUB group?
9. Can the system's configuration be changed from a:

SYSDUMP	_____	YES	_____	NO
COOLSTART	_____	YES	_____	NO
WARMSTART	_____	YES	_____	NO
COLDSTART	_____	YES	_____	NO
10. Can you log on to a non-console terminal via HELLO OPERATOR.SYS?
11. What's the difference between a full SYSDUMP and a STORE @.@.?
12. Explain what a file equation does and the parameters that can be used.
13. How do you correct the margins on a terminal if they are set wrong?
14. No reports have printed and in doing a SHOWOUT you notice that LP shows a report as 'ACTIVE' - what are four reasons the printer isn't printing?
15. The console is "beeping" - what should you look for?

SUMMARY

This is by far, not a complete list, but hopefully enough to get you started with your own in-house training, if necessary. By branching off at the key areas where you need to work in your own software and pertinent information to your organization, you should have a working outline for training.

All of this information can put fear into a new operator - but putting them at ease from the start and setting limitations as to what they can do on their own will help them gain a comfort level. They'll never know everything because I doubt that there are too many people who do fully understand what the system does and what it's capable of doing, but your operators will know what is necessary to keep your system up and running and what to do when it won't!