Purpose of the Exam Preparation Guide

The intent of this guide is to set expectations about the content and the context of the exam and to help candidates prepare for the exam. In this guide, you will find recommended HP training courses, reference and study material to help you achieve a successful passing score.

Studies conducted by HP and Prometric show that a combination of course attendance and self-study maximizes the likelihood of passing the exam on the first attempt.

Audience

This exam is targeted for the following audience, with a minimum of five years’ experience on the NonStop S-Series platforms running the G-Series NonStop Kernel Operating System. Examples of job roles:

- NonStop Application Developers and Designers who develop applications on NonStop servers particularly within a NonStop Guardian environment.
- Professional Services personnel who assist NonStop customers.
- Analyst SEs or Pre-Sales Technical Support (PSTS) personnel, who perform pre-sales consulting and technical account support.
- NonStop Technical Consultants (both internal and external), System Integrators and Consultant Partners, Authorized Service Channel Partners and Distributors, Customers authorized to service their own equipment.
- Global Customer Support Center (GCSC) personnel, who may have specialized technical expertise in the operating system and NonStop applications and serve as support for both field support technicians and customers.

General areas of content include: NonStop Pathway TS and TS/MP concepts and architecture, components, application design and development, configuration, performance tuning and optimization, troubleshooting techniques, management, and NonStop HP product interoperability.

Certification Requirements

The Pathway TS and TS/MP HP0-767 is an elective exam for certification as a NonStop application developer under in the HP NonStop Certified Systems Developer (CSD) track. If you choose to pursue additional HP NonStop certification, this exam also satisfies an elective requirement for the Accredited
System Engineer (ASE) in the HP NonStop S-series Systems track and for the HP NonStop Kernel Certified Systems Engineer (CSE) in the HP Operating System certification track.

For further information on HP NonStop Systems track requirements, visit the website at http://education.nonstop.compaq.com/us/cert/certtrak.pdf or http://www.hp.com/go/certification

Prerequisites

None, but it is highly recommended that you have three to five years’ experience working in an HP NonStop Pathway TS and TS/MP environment.

Exam Details

The NonStop Pathway TS and TS/MP is a live exam. You will receive a score report with your results after testing is complete. You can use the report to identify areas of strength and learn about areas to improve, if necessary.

Test Information

- **Number of test items:** 75
- **Item type:** multiple choice
- **Time commitment:** 90 minutes
- **Passing Score:** 51
- **Percent Correct:** 68%
- **Reference material:** No online or hard copy reference material will be allowed at the testing site.
Exam Content

The following outline represents the specific areas of content covered in the exam. Use this outline to guide your study and to check your readiness for the exam. The exam measures your understanding of these areas. The approximate percentage of exam questions dedicated to each major content area is included in parenthesis. Typically, the higher the percentage, the more questions will be on the exam.

1) Concepts and Architecture (15%)

1.1 Describe the requester/server model
   • Discuss the request/response model
   • Demonstrate knowledge of server functions
   • Demonstrate knowledge of requester functions
   • Demonstrate knowledge of managing the model

1.2 Describe the client/server model
   • Discuss the request/response model
   • Demonstrate knowledge of server functions
   • Demonstrate knowledge of client functions
   • Demonstrate knowledge of managing the model

1.3 Describe the server classes
   • Describe the advantages of server classes
   • Demonstrate knowledge of server functions
   • Describe the link management architecture
   • Describe concept of dynamic and static servers

1.4 Describe the concept of terminal control processes
   • Describe the relationship of TCP to SCOBOL
   • Describe the management of SCOBOL library
   • Describe functions allowed in SCOBOL
   • Describe best practices using SCOBOL
   • Describe TCP functionalities

1.5 Describe distributed processing
   • Describe distributed Pathway model
   • Describe distributed management
   • Describe best practices

1.6 Describe the security model
• Describe PATHMON security techniques
• Describe NSK security interaction with Pathway
• Describe the capabilities of embedding security in Pathway and TS/MP processes

1.7 Demonstrate knowledge of how Pathway and TS/MP support NonStop fundamentals
• Describe TS/MP support for scalability
• Describe Pathway support for scalability
• Describe TS/MP support for availability
• Describe Pathway support for availability
• Describe TS/MP support for data integrity
• Describe Pathway support for data integrity
• Describe TS/MP support for fault tolerance
• Describe Pathway support for fault tolerance

1.8 Demonstrate knowledge of how TS/MP supports open transaction processing
• Describe Java interface to TS/MP
• Describe NonStop TUXEDO interface to TS/MP
• Describe JDBC and ODBC stored procedures interface to TS/MP

2) Components (13%)
2.1 Describe Pathway/TS components
• Describe the function of the TCP
• Explain use of SCOBOL (MDT)
• Describe the function of TERM
• Describe the function of PROGRAM
• Explain use of SCOBOL program library
• Explain use of Intelligent Device Support (IDS)
• Explain use of user conversion procedures (MAKEUL)
• Explain use of SCUP
• Explain use of SCOBOLX

2.2 Describe TS/MP components
• Describe the function of PATHMON
• Explain use of PATHCOM
2.3 Describe Pathway/XM components

- Describe the function of PXMCFG
- Describe the function of Service definitions
- Describe the function of SuperCTL
- Describe the function of PXMCHK
- Describe the function of PXMCOM
- Describe the function of Process Broker
- Describe the function of Link Control Service (LCS)

2.4 Describe Pathway/iTS

- Describe the function of ROUTER
- Describe the function of Web client
- Describe the function of Gateway (screen program)
- Explain use of Java import package

3) Application Design and Development (20%)

3.1 Demonstrate knowledge of creating message structures using DDL

- Describe reply code format and usage
- Explain DDL compiler usage
- Describe proper techniques when using MAXREPLY
- Demonstrate knowledge of creating source library files (sections)
  - SCOBOL and Pathsend

3.2 Demonstrate knowledge of application design best practices

- Explain fault tolerant server characteristics
- Describe Pathmon usage for fault tolerance of non-Pathway programs
• Explain communication of error information between requesters and servers
• Describe error recovery design
• Describe development practices for Pathway debugging
• Explain appropriate conditions under which to abend

3.3 Demonstrate knowledge of Pathsend
• Identify attributes of Pathsend APIs
• Discuss Pathsend errors
• Identify limits
• Describe knowledge of Pathsend dialogs

3.4 Demonstrate knowledge of SCOBOL requester development
• Identify unique characteristics of program structure
• Explain usage of termination status and substatus
• Demonstrate knowledge of SCOBOL issues
• Explain usage of TMF within a SCOBOL requester
• Demonstrate knowledge of SCOBOL verbs
• Demonstrate knowledge of unsolicited messages
• Demonstrate knowledge of accessing server classes under other Pathmons
• Demonstrate knowledge of conversational versus block mode sessions
• Demonstrate knowledge of IDS and GDS
• Demonstrate knowledge of requester nesting
• Demonstrate knowledge of reply code dependent processing
• Demonstrate knowledge of user conversion routines

3.5 Demonstrate knowledge of server development
• Demonstrate knowledge of program structure
• Describe languages supported for servers
• Demonstrate knowledge of cascading servers
• Demonstrate usage of TMF
• Demonstrate knowledge of $RECEIVE
• Demonstrate knowledge of multithreaded servers
• Describe usage of syncdepth
• Describe how to handle context
• Explain the importance of determining requests origin
• Explain system message processing
• Describe error messages and error handling

3.6 Demonstrate knowledge of versioning
• Describe versioning using SCUP
• Explain how to design for backward compatibility
• Identify deployment issues

4) Configuration (15%)

4.1 Describe configuration parameters for Pathmon
• Demonstrate knowledge of online configuration
• Demonstrate knowledge of static configuration
• Demonstrate knowledge of Pathmon limits
• Demonstrate introduction of Pathmon controlled objects

4.2 Describe configuration parameters for TCP
• Demonstrate knowledge of static configuration parameters
• Demonstrate knowledge of dynamic configuration parameters
• Demonstrate knowledge of TCP limits
• Demonstrate knowledge of TCP libraries

4.3 Describe configuration parameters for LINKMON
• Demonstrate knowledge the utilization of links and link attributes
• Demonstrate knowledge of dissolving of links
• Demonstrate knowledge the effects of link configuration

4.4 Describe configuration parameters for requesters
• Demonstrate knowledge of requester code libraries
• Demonstrate knowledge of requester versioning
• Demonstrate knowledge of TERM entities
• Demonstrate knowledge of PROGRAM entities

4.5 Describe configuration parameters for SERVER
• Demonstrate knowledge of configuring within the OSS environment
• Demonstrate knowledge of configuring of static server processes
• Demonstrate knowledge of configuring of dynamic server processes
• Demonstrate knowledge of configuring within the Guardian environment
• Demonstrate knowledge of attributes of Guardian and OSS environment
• Demonstrate knowledge of Guardian only attributes
• Demonstrate knowledge of OSS only attributes
• Demonstrate knowledge of utilizing server processes in multiple processors

4.6 Describe the configuration of distributed components
• Demonstrate knowledge of distributed Pathmon
• Demonstrate knowledge of distributed/external TCPs
• Demonstrate knowledge of distributed/external servers

4.7 Describe security configuration features
• Demonstrate use of Pathmon security
• Demonstrate use of TCP security
• Demonstrate use of server security

5) Performance Tuning and Optimization (8%)

5.1 Describe Pathmon tuning
• Explain distributed Pathmon
• Identify startup and shutdown optimization
• Identify use of system resources

5.2 Describe TCP tuning
• Demonstrate usage of STATS
• Describe the tuning aspects of TCP-server relationships
• Describe tuning of TCP related system resources
• Describe usage and tuning of TCP POOLS
• Demonstrate use of distributed TCP

5.3 Describe LINKMON tuning
• Describe aspects of dynamic link creation/deletion
• Demonstrate use of optimizing link performance

5.4 Describe SERVER tuning
• Describe the server tuning information gathered by LINKMON
• Describe server tuning information collected by TCP
• Describe aspects of tuning server classes/pools
• Describe use of NonStop availability features impacting performance
• Demonstrate use of distributed servers

5.5 Demonstrate knowledge of general Pathway (TS and TS/MP) tuning issues
• Overall Pathway system tuning
• Programmatic interface issues
• Describe other performance tool usage
• Describe cross dependencies of entity attributes
• Describe performance with respect to Pathway/XM

6) Troubleshooting Techniques (9%)

6.1 Describe techniques to debug TS/MP processes
• Demonstrate starting an Inspect session for a specific process
• Demonstrate usage of PATHCOM commands to facilitate debugging
• Demonstrate use of debugging techniques

6.2 Describe techniques to debug Pathway/TS requesters
• Demonstrate starting an Inspect session for a specific program
• Demonstrate usage of PATHCOM commands to facilitate debugging
• Demonstrate use of debugging techniques
• Demonstrate a relationship between Pathway error reporting and SCOBOL logic

6.3 Identify Pathway/TS and TS/MP sources for troubleshooting
• Identify the PATHCOM commands that provide troubleshooting information
• Demonstrate usage of PATHCOM commands to facilitate debugging

6.4 Identify methods for displaying and logging troubleshooting information
• Demonstrate use of available TS/MP and Pathway/TS tools
• Demonstrate use of non TS/MP and Pathway debugging techniques
• Demonstrate knowledge of available documentation

7) Management (13%)

7.1 Describe server process management
• Demonstrate use of process pairs
• Demonstrate use of Starting, Thawing, Freezing, Stopping
• Explain the reasons for renaming executable files
• Describe the Pathway/XM methods for suspending and resuming objects
• Demonstrate the usage of statistics
• Demonstrate the use of unnamed processes

7.2 Describe server management
• Demonstrate use of links
• Describe the differences and relationship between static and dynamic servers
• Demonstrate knowledge of autorestart and failures
• Demonstrate knowledge of OSS-specific management issues
• Demonstrate use of PARAMs and ASSIGNs
• Demonstrate use of DEFINEs

7.3 Describe Pathmon management
• Explain load balancing
• Explain startup and shutdown techniques
• Demonstrate how to fall back to a previous configuration
• Explain use of error logs

7.4 Describe TCP management
• Demonstrate the use of tables and pools
• Demonstrate how to interpret the output of statistics
• Demonstrate how to interpret the output of STATUS
• Demonstrate how to interpret the output of INFO

7.5 Describe requester management
• Demonstrate how to manage terminals
• Demonstrate how to interpret the output of statistics
• Demonstrate how to interpret the output of STATUS
• Demonstrate how to interpret the output of INFO

7.6 Describe security management
• Demonstrate knowledge of remote access
• Demonstrate knowledge of server class security
• Demonstrate knowledge of Pathway security
• Demonstrate knowledge of remote passwords
• Describe Safeguard relationship

7.7 Describe system resource management
• Demonstrate knowledge of process priorities
• Demonstrate knowledge of load balancing
• Demonstrate knowledge of application groups

8) HP Product Interoperability (7%)

8.1 Demonstrate knowledge of Pathway-related products
• Describe interfaces to iTP WebServer
• Describe interfaces to Pathway CGI
• Describe interfaces to ATP
• Describe interfaces to TUXEDO
• Describe interfaces to CORBA
• Describe interfaces to RSC/MP

8.2 Demonstrate use of Pathway-related tools
• Explain use of data dictionary
• Explain use of Pathmaker
• Explain use of Enable
• Explain use of Scalable TCP/IP
• Explain use of SPI

8.3 Demonstrate use of Pathway APIs for Java
• Explain use of Java guardian package
• Explain use of tsmp package
• Explain use of ddl2java

8.4 Demonstrate use of interoperability with the OSS environment
• Explain use of environment variables
• Explain use of pathnames
• Explain use of systype
• Explain use of arglist
Recommended Training and Study References

This section lists training courses and documents that can help you acquire a majority of the knowledge and skills needed to pass the exam. You must also gain the practical experience outlined in this guide.

You are not required to take the courses listed in this section. However, HP strongly recommends that you attend the classes, participate in class labs, and thoroughly review all course material and documents before taking the exam, even if you believe you have sufficient on-the-job experience.

Instructor-Led Training

Use the information in this guide and the practical experience you have gained to determine your need for the HP instructor-led training.

The HP Certified Professional Program includes references to a variety of materials that provide information included on this certification exam. Completion of these HP courses and review of materials is recommended, but not required, for success on this exam.

Recommended Minimum Courses

<table>
<thead>
<tr>
<th>Course Title</th>
<th>Part Number</th>
<th>Type</th>
<th>Length</th>
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<tbody>
<tr>
<td>HP NonStop Pathway Application Programming 1</td>
<td>U4189S or U4190S</td>
<td>ILT*</td>
<td>4 days or 5 days</td>
</tr>
<tr>
<td>HP NonStop Pathway ITS</td>
<td>U4192S</td>
<td>ILT*</td>
<td>2 days</td>
</tr>
<tr>
<td>HP NonStop Pathway Performance Workshop</td>
<td>U4193S</td>
<td>ILT*</td>
<td>3 days</td>
</tr>
<tr>
<td>Pathway System Management for HP NonStop Systems</td>
<td>U4194S</td>
<td>ILT*</td>
<td>3 days</td>
</tr>
</tbody>
</table>

ILT = Instructor-Led Training
* Indicates that courses are also available as OLT and/or RAIL classes.

Course Descriptions

Check web site course descriptions for prerequisites at: [http://www.hp.com/education/sections/nonstop.html](http://www.hp.com/education/sections/nonstop.html)

To register in HP NonStop courses, go to: [http://www.hp.com/cgi-bin/education/regform.cgi](http://www.hp.com/cgi-bin/education/regform.cgi)

Or, you can send an email to nonstop.training@hp.com

Additional Recommended Reference Materials for This Exam

References for exam questions are found in the web-based HP NonStop Technical Library (NTL). The NTL can be accessed from these URLs:

Internal: [http://techlibrary.cac.cpqcorp.net/ntl/](http://techlibrary.cac.cpqcorp.net/ntl/)

External: [www.hp.com/go/ntl](http://www.hp.com/go/ntl)
Note that this exam preparation guide typically references the latest documentation release available at the time the exam was written.
Documentation

The information in this exam preparation guide is current as of release G06.20. However, you may find the information in earlier or later versions of the HP NonStop Technical Library (NTL) documentation as well. Specific references are provided below.

- Availability Guide for Application Design (525637-002)
  - Availability in the Pathway Transaction-Processing Environment (Introduction)
    - Availability Concepts Used in Pathway Applications
    - Summary and Comparison of Application Components
  - Data Protection and Recovery
    - Transaction Protection
- Compaq NonStop Pathway/iTS System Management Manual (426748-001)
  - Configuring Pathway/iTS Objects
    - Configuring TCPs for a Customized TCP Object Library
    - Configuring TERM and PROGRAM Objects
  - Introduction to Pathway/iTS System Management
    - Objects and Processes Provided by Pathway/iTS
  - Maintaining Pathway/iTS Objects
    - Migrating Pathway/iTS Objects to a Different System
  - PROGRAM Commands
    - RESET PROGRAM Commands
  - TERM Commands
    - Additional Error Information
    - INSPECT TERM Command
    - SET TERM Command
      - INSPECT { ON [ ( FILE file-name ) ] | OFF }
      - ON
    - START TERM Command
    - STATS TERM Command
    - STATUS TERM Command
  - Terminal Control Processes (TCP) Command
    - Display Format With DETAIL
    - INFO TCP Command
    - SET TCP Command
      - DEBUG { ON I OFF }
      - INSPECT { ON I OFF }
      - STATS { ON I OFF }
- STATS TCP Command
- STATUS TCP Command
- Tuning Your System Using Statistics
  - AREA INFO
  - Link Management
  - MAX TSIZE
  - POOL INFO
    - SIZE
      - TERMPOOL
- Data Definition Language (DDL) Reference Manual (426798-001)
  - DDL Compiler Commands
    - CCHECK Command Example
  - Definition Attributes
    - UPSHIFT Clause
  - Introduction to DDL (Introduction)
- Enable Reference Manual (82560)
- Guardian Programmer’s Guide (421922-001)
  - Writing a Server Program
    - Maintaining an Opener Table
    - Receive-Depth
- Inspect Manual (118810)
  - Debugging Pathway Applications
    - Starting the Debugging Session
  - Debugging Processes and Save Files
    - Preparing and Configuring for Process Debugging
- JToolkit for Java 2.0 (527489-003)
  - ddl2java Tool and Related Classes
    - Description
  - Scalable TCP/IP (SIP)
    - Introduction
    - SIP Servers
- NonStop ODBC Server Reference Manual (424092-001)
  - Stored Processes
    - How Stored Execution Procedure Works
Installing and Using Stored Procedures

- NonStop TS/MP Management Programming Manual (120038)
  - NonStop TS/MP Management Programming
    - Comparison of PATHCOM and SPI Commands
  - PATHMON Error Messages
  - SPI Programming Considerations
    - Values for Specifying Continuation
- NonStop Server for Java (NSJ) TOOLS Reference Pages (426948-001)
- NonStop TS/MP System Management Manual (135027)
  - Configuration Limits and Defaults
    - Table C-1. Global Pathway Environment Limits
    - Table C-2. Limits and Defaults for Parameters (page 3 of 10)
    - Table C-2. Limits and Defaults for Parameters (page 6 of 10)
  - Configuring Objects in a PATHMON Environment
    - Attributes That Apply Only to OSS Servers
    - Configuring a PATHMON Environment
      -Specifying Limits
    - Configuring OSS Servers for Effective Space Allocation
    - Configuring Static and Dynamic Server Processes
    - Configuring Server Classes
    - CREATEDELAY and DELETEDELAY
    - LINKDEPTH
    - Links and Link Attributes
    - NUMSTATIC
    - Specifying Node Independence
    - Specifying Security
    - Steps to Optimum Link Configuration
    - Understanding the Effects of Link Configuration
    - Using the SET and ADD Commands
- Glossary
  - PROGRAM Object
  - Screen COBOL
- Introduction to NonStop TS/MP System Management
  - A NonStop TS/MP Application With Pathway/TS
- Distributing a Pathway or PATHMON Environment
- External TCPs
- LINKMON Processes
- NonStop TS/MP Objects and Processes
  - PATHMON Object
- Objects and Processes Provided by NonStop TS/MP
- Objects and Processes Provided by Pathway/TS
- Pathway Environment Configurations
- System Management Tools
- LINKMON Log Messages
  - General Information
- Maintaining a PATHMON Environment
  - Capturing a Configuration
  - Logging Information to a Disk File
- Managing the Pathsend Environment
  - Server Class Security
  - Specifying Security
  - Specifying the Maximum Number of LINKMON Processes
- PATHMON Environment Control Commands
  - BACKUPCPU number
  - COLD
  - Escalating the Shutdown Process
    - Considerations
- PATHMON Messages (1000 to 1999)
  - 1010
  - General Information
  - SCREEN COBOL Errors
- Server Commands
  - DEBUG { ON I OFF }
  - FREEZE SERVER Command
  - MAXSERVERS number
  - NUMSTATIC number
  - OWNER ownerid
  - process-attribute
• Hometerm
  ■ SECURITY security-attribute
  ■ SET SERVER Command
  ■ CPUS primary-backup: 1 cpu
  ■ START SERVER Command
  ■ STATS SERVER Command
  ■ STATUS SERVER Command
• Starting and Stopping a PATHMON Environment
  ■ How the PATHMON Process Builds the Configuration File
  ■ Restarting a PATHMON Environment
  ■ Shutting Down a PATHMON Environment
  ■ Specifying the START Command
• Starting and Stopping SERVER Objects
  ■ Dynamic Server Processes
  ■ Start Server Processes
• Tuning Your System by Using Statistics
  ■ Server Statistics Collected Only By the TCP
  o NonStop TUXEDO System Application Development Guide (125218)
    ■ Designing Applications for NonStop Systems
      ■ Matching Conversation/Context Mode
  o Pathway/iTS SCREEN COBOL Reference Manual (426750-001)
    ■ Procedure Division
      ■ ON ERROR imperative-statement
  o Pathway/iTS SCUP Reference Manual (520269-001)
    ■ Introduction to SCUP
      ■ Introduction to SCUP (Introduction)
    ■ SCUP Commands
      ■ INFO Command
  o Pathway/iTS TCP and Terminal programming Guide (426751-001)
    ■ Designing Your Application
      ■ Clients Using RSC/MP
      ■ Designing Requester Programs
      ■ IDS Requesters
      ■ Programming Tasks
- Unsolicited Message Processing
- Introduction to TCP and Terminal Application Programming
  - SCREEN COBOL Requesters
  - Transaction From a Terminal
- The MAKEUL Macro
- Programming for Intelligent Devices
  - Programming for Intelligent Devices (Introduction)
- Writing User Conversion Procedures
  - User-Written User Conversion Procedures
  - Pathway/iTS Web Client Programming Manual (520270-001)
    - Introduction to Pathway/iTS Web Clients
      - Development Process for Web Clients
      - Java Import Package
  - Pathway/XM System Management Manual (426761-001)
    - Link Control Service (LCS) Processes
    - Managing Clients and Requesters
    - Overview of Configuring and Managing Pathway/XM
      - PXMCHK Utility
    - PATHMON Processes and PATHCTL Files
    - Pathway/XM Benefits and Features
      - Automatic Management With Logical Configurations
  - Pathway/iTS SCREEN COBOL Reference Manual (139453)
    - Data Division
      - Base Screen
      - Linkage Section
      - TERMINATION-STATUS Special Register
    - Errors for Message Section Statements
      - Errors for Message Section Statements (Introduction)
    - Introduction to SCREEN COBOL
      - Developing Programs With System Tools
        - Generating Object Files With the Compiler
      - Introduction to SCREEN COBOL (Introduction)
      - Pathway Environment Overview
        - Pathway System Components
- Requesters
- Terminal Control Process (TCP)

- Procedure Division
  - ACCEPT-STATEMENT
    - UNSOLICITED [ MESSAGE ]
  - BEGIN-TRANSACTION Statement
  - Block Mode Accept Operation
  - SEND Statement
  - Use of Reply Codes and Termination Status

- SCREEN COBOL Source Program
  - Block Mode Program
  - Language Elements
  - Program Operating Modes
    - Intelligent Mode Program
  - SCREEN COBOL Source Program (Introduction)

  o Pathway/TS SCREEN COBOL Utility Program (SCUP) Reference Manual (127342)
    - Introduction to SCUP
      - Introduction to SCUP (Introduction)
      - Controlling TCP Access
    - SCUP Commands
      - ACCESS
      - COMPRESS Command

  o Pathway/TS TCP and Terminal Programming Guide (121308)
    - Introduction to TCP and Terminal Application Programming
      - Fault Tolerance
      - Other Tandem Fundamentals
        - Distributed Processing

  o RSC/MP Programming Manual (425711-001)
    - Introduction to Remote Server Call (RSC)

  o TS/MP Management Programming Manual (120038)
    - Introduction (Introduction)
    - PATHMON Error Messages
      - 1004: ZPWY-ERR-PM-ALREADYSTOPPED
    - SPI Programming Consideration
- Security
  - Tuning Your System By Using Statistics
    - Queue Info
  - ZPWY-DDL-Definitions
    - ZPWY-DDL-SCASSIGNNAME
- TS/MP Pathsend and Server Programming Manual (132500)
  - Designing Your Application
    - Designing Server Programs
    - Early Replies
    - Fault-Tolerant Process Pairs
    - IDS Requesters
    - Nested Servers
    - Pathsend Requesters
    - Packaging Server Functions
  - Introduction (Introduction)
  - Introduction to Pathway Application Programming
    - LINKMON Processing
    - Pathway Applications
    - Server and Server Class
    - Server Classes
  - NonStop TS/MP Limits for Pathsend Requesters
  - Pathsend Errors
    - Types of Errors Returned by the Pathsend Procedures
  - Pathsend Procedure Call Reference
    - SERVERCLASS_SEND_Procedure
  - Writing Pathway Servers
    - Considerations for Servers Used With SCREEN COBOL Requesters
    - Guardian Servers and Pathway Servers
    - LINKMON Process and TCP Timeouts
    - Pathsend Requester Failures
    - Recommended Structure for Applications
    - Servers as Process Pairs
    - Server Stop Protocol
    - Writing Context Sensitive Servers
Conclusion

HP wishes you success in the HP Certified Professional Program and in passing the exam for which you are preparing.