

**NetConnect  
for  
OnDemand/400  
by  
OAS Corp.**

Version 2.0

*Installation, Administration,  
and User Reference*

ODNadm3.doc

Last Updated: 07/09/2002

## Table of Contents

<b>1. PRODUCT OVERVIEW .....</b>	<b>3</b>
1.1 RECENT ENHANCEMENTS.....	3
<b>2. PREREQUISITE INSTALLATION .....</b>	<b>5</b>
2.1 AS/400 SOFTWARE .....	5
2.2 NETWORKING.....	5
2.3 PC HARDWARE/SOFTWARE .....	5
<b>3. PREREQUISITE SETUP AND CONFIGURATION .....</b>	<b>6</b>
3.1 AS/400.....	6
3.2 PC SOFTWARE .....	7
<b>4. NETCONNECT FOR ONDEMAND/400 INSTALLATION .....</b>	<b>9</b>
4.1 UPGRADE FROM PREVIOUS VERSIONS .....	9
4.2 NEW INSTALL.....	9
4.3 ADDING LICENSE INFORMATION.....	11
<b>5. SYSTEM ADMINISTRATION .....</b>	<b>12</b>
5.1 START TCP/IP COMMUNICATION AND HTTP SERVER.....	12
5.2 AUTHORIZE AS/400 USER IDS .....	12
5.3 ENABLE CHANGE EXPIRED PASSWORDS.....	16
<b>6. USERS REFERENCE.....</b>	<b>17</b>
6.1 WELCOME PAGE.....	17
6.2 LOGON PAGE.....	18
6.3 CHANGE PASSWORD PAGE .....	19
6.4 FOLDER SELECTION PAGE.....	20
6.5 SEARCH SELECTION PAGE.....	21
6.6 SEARCH RESULTS PAGE .....	23
<b>7. ADDITIONAL INFORMATION .....</b>	<b>24</b>
7.1 ERROR PROCESSING.....	24
7.2 HTTP PERFORMANCE HINTS AND TIPS.....	25
<b>8. USER EXIT PROGRAMMING .....</b>	<b>26</b>
8.1 SECURITY EXIT - EXTLOGON .....	26
8.2 FOLDER EXIT - EXTFOlder.....	26
8.3 SELECTION EXIT - EXTSELECT .....	27
8.4 LIST EXIT - EXTLIST .....	27
<b>9. PROGRAMMING FLOW .....</b>	<b>29</b>

# 1. Product Overview

NetConnect for OnDemand/400 enables web browser access to objects stored in IBM's OnDemand for AS/400 Report/Data Archive and Retrieval System (R/DARS) Spool file archive and AnyStore features.

NetConnect for OnDemand/400 is an AS/400 software product written to the AS/400 Common Gateway Interface (CGI). The product interfaces with the AS/400's HTTP server to provide an HTML user interface that allows the user to enter OnDemand for AS/400 specific search criteria. The product processes the user's requests to search for, and retrieve objects using the OnDemand for AS/400 APIs.

The installation of the AFP Viewer plug-in, available for download from IBM at no-charge, is a prerequisite for viewing AFPDS formatted objects. The installation of other browser plug-ins may be required to view other miscellaneous file types that may be stored within OnDemand's AnyStore feature.

## 1.1 Recent Enhancements

### 1.1.1 07/09/2002 Build

- Added support for OS/400 v.5.1.

### 1.1.2 04/16/2001 Build

- Integrated support for calls to OAS Corp.'s AFP2Web/400 product if it is also installed. If AFP2Web/400 is also installed, NetConnect for OnDemand/400 can automatically convert AFP documents to PDF files to send to the browser for viewing using the PDF plug-in.
- Added the display of a message after logon if the user's password is close to expiring.
- Added ability to change the user's password even after it has expired.
- Added support for a single character wildcard character of '%' embedded at the beginning or in the middle of a search text string.
- Added support for special characters in the search strings.
- Added the ability to call the WEBSEARCHX CGI program using the HTML GET method. This adds flexibility when building custom HTML interfaces.
- Added support for all OS/400 versions through v.4.5.

### 1.1.3 05/05/2000 Build

- Added a Validation user exit called LISTAPI after the Search Selection page that allows a customer program to validate, modify, add or remove any of the search keys entered by the user before running the Search API.

- Added support for display of SCS spool files with archived resources. If \*OTHER reports are defined to OnDemand with archived overlay resources, these objects are retrieved using NetConnect and are displayed in the AFP Viewer plugin with the overlays.
- Changed the Folder list Exclude capability to process more consistently with the OnDemand Client, requiring the report to be part of a report group.
- Added support for lines signified with a plus sign as overstrike characters in the spool file. These lines are displayed on the previous line.
- Added support to not display empty folders in the Folder Selection page pull down list.
- Added support for in installation setup to specify a TCP/IP port other than the default.

#### **1.1.4 3/3/2000 Build**

- Added change password capability.
- Added display of folder description on the Folder Selection page.
- Added support for OnDemand ability to optionally not display individual reports on the Folder Selection page if the reports are part of a Report Group. ( Folder list Exclude feature in the OnDemand Report definition)

#### **1.1.5 12/2/1999 Build**

- Added Enhanced Administration function to enable and disable NetConnect for OnDemand/400 users.
- Added Report Group search capability.

## 2. Prerequisite Installation

The following are prerequisites for the successful installation and operation of NetConnect for OnDemand/400:

### 2.1 AS/400 Software

The following AS/400 software must be installed on the host AS/400 prior to installation and configuration of NetConnect for OnDemand/400:

- OS/400 v.3.2 or OS/400 v.3.7 or higher with the most recent software PTFs applied.
- OS/400 TCP/IP Connectivity Utility/400 (a no-charge feature of OS/400).
- OnDemand for AS/400 Spool File Archive Feature v.3.2 or v.3.7 or higher with the most recent software PTFs applied.
- If OnDemand for AS/400 AnyStore feature is installed, it must be at v.3.2 or higher.

### 2.2 Networking

TCP/IP access to the AS/400 is required. Various combinations are possible. Some alternatives include:

- Asynchronous modems attached to AS/400 asynchronous communication adapters, or
- Asynchronous modems attached to a remote access server on an AS/400 connected LAN, or
- Direct LAN attachment, or
- Other connection from the internet to the AS/400.

### 2.3 PC Hardware/Software

The user's PC must have the communication hardware capable of making a physical connection to the AS/400. Various methods are possible, including:

- asynchronous modem, or
- local area network connection.

The user's PC must be running one of the following operating systems in order to support IBM's AFP Viewer plug-in (required for the viewing of AFPDS formatted documents):

- Windows 95, Windows 98, Windows 2000, Windows NT

The user's PC must be running one of the following web browsers:

- Netscape Navigator (Version 3.01 or later) or
- Microsoft Internet Explorer (Version 3.01, Level 4.70.1215 or later).

## 3. Prerequisite Setup and Configuration

Follow these steps to configure the prerequisite software. The following sections assume that the prerequisite hardware and software is properly installed.

### 3.1 AS/400

Based on the proper installation of the prerequisite AS/400 and network hardware and software, the following instructions may be used to enable the AS/400 as an intranet server. Additional information may be found in IBM AS/400 manuals.

#### 3.1.1 Confirm HTTP User IDs Enabled and in System Directory

There are two AS/400 provided User IDs that perform HTTP related functions, QTMHHTTP and QTMHHTTP1. These users must be in the AS/400 System Directory. Use the following command to check for their existence and add them if necessary:

```
WRKDIRE [enter]
```

- Option 1 [enter], to add if necessary

#### 3.1.2 Verify TCP/IP Address

From the AS/400 command line, confirm or add a TCP/IP address for the AS/400 that specifies the AS/400 communication line description and line type using the following command:

```
CFGTCP [enter]
```

- Option 1 [enter], for Work with TCP/IP Interfaces
- Either add or note the AS/400's TCP/IP address
- Option 12 [enter], for Change TCP/IP domain information
- Either add or note the AS/400's Host Name

#### 3.1.3 Setup HTTP Server Configuration File

From the AS/400 command line, use the WRKHTTPCFG command to modify the HTTP configuration file on the AS/400 in the following way:

(Note: All of these mapping directives, as listed below, are CASE SENSITIVE)

- Add or uncomment the following lines (where name.com is the name of your AS/400):

```
HostName name.com
```

```
Enable GET
```

```
Enable POST
```

- Add the following lines after the Enable GET line: (Lines beginning with # are comments are not required.)

```
# Add this line only if you don't have an AS/400
```

```

# Welcome page already defined
Pass      /          /webstore/welcome.html
# The next four lines are required
Pass      /logon.html      /webstore/logon.html
Pass      /webchgpw.html   /webstore/webchgpw.html
Pass      /webstore/*
Exec      /QSYS.LIB/OASINET.LIB/*

```

- If you plan to retrieve AFPDS formatted documents to the browser for viewing in the AFP Viewer plug-in then add the following line at the end of the file:

```
AddType .afp      application/vnd.ibm.modcap
```

Note: The HTTP server must be restarted after these changes are made using the command:

```
STRTCPSVR SERVER(*HTTP) RESTART(*HTTP) [enter]
```

### 3.1.4 Verify HTTP Sartup Attributes

From the AS/400 command line type CHGHTTPA and press F4 to modify the default attributes of the HTTP server. Recommended changes include:

- Change Autostart to \*YES. This allows the HTTP server to start automatically when TCP/IP communications is started.
- Change the Number of server jobs to fit planned NetConnect for OnDemand/400 usage requirements. The HTTP server must be restarted after this change is made using the command:

```
STRTCPSVR SERVER(*HTTP) RESTART(*HTTP) [enter]
```

## 3.2 PC Software

The following configuration steps are recommended for a Windows 2000 implementation. Similar steps are required for other Windows implementations.

### 3.2.1 Create a Connection (Required for Dial Access Only)

A network connection to the AS/400 must exist.

- Select Windows Start, select Settings, select Control Panel.
- Select Network and Dial-up Connections folder icon.
- Select File, select New Connection
- Follow the prompts in the setup wizard to create your connection

### 3.2.2 Configure TCP/IP

TCP/IP must be configured.

- Select Windows Start, select Settings, select Control Panel.
- Select Network and Dial-up Connections folder icon.

- Select the connection used to access the AS/400
- Confirm that the item in the component list called Internet Protocol (TCP/IP) is checked.
- To add: select Install, select Protocol, select Microsoft as the manufacturer, select TCP/IP as the Network protocol.

### **3.2.3 Download and Install IBM AFP Plug-in Viewer**

A browser plug-in is used to view AFPDS formatted objects retrieved from OnDemand for AS/400. Use the following instructions to download a no-charge copy of the IBM AFP Viewer plug-in from the specified IBM web site:

- Access the IBM web page:  
<http://www.printers.ibm.com/pbin-afp/go?/pdocs/afpview.html>
- Select the Download the AFP Viewer plug-in link.
- Select to Accept the licensing information.
- Complete and submit the registration form.
- Select the Download link. You will be prompted to save the file, `afppi32.exe`, to a temporary directory. In the Save As window select the directory or folder where the file will be saved.
- Press Save and the file will be downloaded to the PC.
- After the download is complete, close the browser.
- Select Windows Start, Run and browse to the directory where the download file is stored and select the file `afppi32.exe`. The plug-in installation will start.
- After installation is complete, restart the browser.

### **3.2.4 Download and Install Other Plug-in Viewers (as needed)**

If you store objects with other file formats, (for example TIFF, PS, or PDF) in the OnDemand AnyStore feature you can use NetConnect for OnDemand/400 to search for them. However, to display them you will need the appropriate third party plug-in installed and configured in your browser to view these other file types.

## 4. NetConnect for OnDemand/400 Installation

### 4.1 Upgrade from Previous Versions

Follow these steps to upgrade from a previous version of the software

1. Return to Steps 3.1.3 and 3.1.4 to check the lines in the HTTP configuration file and, if changed, restart the HTTP Server.
2. Check to make sure that the library OASINET is not in any active library lists.
3. End the HTTP Server on the AS/400.
4. Use the following command on the AS/400 to delete license program:  

```
DLTLICPGM LICPGM(1NETCON)
```
5. After the delete license program, you should check if the OASINET library still exists on the system. If it exists, then delete it.
6. After the delete license program, you should check if the folder WEBSTORE in the IFS root still exists on the system. If it exists, then delete it.
7. Proceed with the following installation steps through step 18. There is no need to run the Setup program again or enable users again.

### 4.2 New Install

Follow these steps to install NetConnect for OnDemand/400 software on the AS/400 from a Windows PC with a TCP/IP connection to the AS/400.

(Important Note: There can be no AS/400 users using the OnDemand application when running the NetConnect Setup program described in step 13.)

8. If you do not already have the NetConnect for OnDemand/400 software, then you can download it from the web site, [www.oascorp.com/evalinst.htm](http://www.oascorp.com/evalinst.htm).
9. Establish a TCP/IP connection from the PC to the AS/400.
10. From an AS/400 terminal emulation session, sign on to the AS/400 as QSECOFR.
11. If necessary, start the FTP server on the AS/400 using the following commands:

```
STRTCP [enter]  
STRTCPSVR SERVER(*FTP) [enter]
```

12. Use the following command on the AS/400 to create a temporary save file for installation:

```
CRSAVF FILE(QGPL/NETCON20) [enter]
```

13. Open a DOS window.

14. If the NetConnect for OnDemand/400 NETCON20.EXE self-extracting zip file is on a diskette, insert the diskette into drive A: of the PC and copy the file a temporary directory on the PC using the command:

```
XCOPY A:\NETCON20.EXE C:\OASINET [enter]
```

15. At the DOS prompt, from the directory containing the NETCON20.EXE file, type the following command to extract the NetConnect for OnDemand/400 product save file:

```
NETCON20 [enter]
```

16. At the DOS prompt, type the following command to start the file transfer protocol:

```
FTP [enter]
```

17. At the FTP prompt, type the following commands:

```
open xxx.xxx.xxx.xx [enter](replace x with TCP/IP address of AS/400)
QSECOFR [enter]
QSECOFR_password [enter] (replace with true password for QSECOFR)
binary [enter]
cd qqpl [enter]
put c:\oasinet\netcon20.sf netcon20 [enter] (assumes save file is in
C:\oasinet directory)
bye [enter]
```

18. Use the following command on the AS/400 to restore the software from the save file:

```
RSTLICPGM LICPGM(1NETCON) DEV(*SAVF) SAVF(QGPL/NETCON20) [enter]
```

19. Confirm that there are no users on the system using the OnDemand application.

20. Use the following AS/400 command to setup NetConnect for OnDemand/400:

```
CALL OASINET/SETUP [enter]
```

21. When prompted, type the AS/400 Host Name or IP address and press [enter]. (If using a TCP/IP port other than the default HTTP port then it may be specified here as an extension of your IP address. For example, your IP address may look like this: 118.118.118.30:83)

22. When prompted, select the language to install; English, French or German, and press [enter].

23. If you receive any errors, cancel the setup program, display current job log, correct the error, and return to step 11. The setup program can be run as many times as needed with no problems to the system.

24. Use the following command on the AS/400 to add each AS/400 user id that will use NetConnect for OnDemand/400:

```
WRKNETCUSR [F4=Prompt]
```

This command is described in more detail in the 'System Administration' section of this document.

## 4.3 Adding License Information

NetConnect for OnDemand/400 requires a license key to continue to operate properly. NetConnect for OnDemand/400 provides a grace period of 30 days to add the appropriate license key information. Contact the provider of the product or OAS Corp. to obtain the proper license key for the product to continue to operate. If a valid key is not provided NetConnect for OnDemand/400 will cease to function 30 days after installation. Once the license key has been obtained, use the following command to enter the license key provided:

```
WRKLICINF PRDID(1NETCON) [enter]
```

- Option 1 [enter], to add license key

## 5. System Administration

### 5.1 Start TCP/IP Communication and HTTP Server

The use of NetConnect for OnDemand/400 requires that TCP/IP communications and the HTTP server must be started on the AS/400. Use the following commands:

- Start TCP/IP communications if it has not already been started

```
STRTCP [enter]
```

- Start the HTTP server.

```
STRTCPSVR SERVER(*HTTP) [enter]
```

(Note: Ensure that the user profile that starts the HTTP server has access to the command object.)

(Note: Other TCP/IP servers may be need to be started to perform other functions not related to NetConnect for OnDemand/400.)

It is intended that these programs are started in batch at the beginning of the day.

### 5.2 Authorize AS/400 User Ids

Each AS/400 User Id that uses NetConnect for OnDemand/400 must be explicitly authorized to use the product. If a user attempts to sign-on with an AS/400 user id that has not been authorized they will get a NetConnect for OnDemand/400 error id: CPF22E9 with the message: “\*USE authority to user profile xxxxxxxx required.”

There are two alternatives for enabling NetConnect users. The first option (WEBUSER program) is a command line interface which works well when processing either a single specific user id or when automating the function within another program. The second option (WRKNETCUSR program) is useful for displaying which users are enabled and disabled and changing their status directly from the user interface.

#### 5.2.1 WEBUSER Command

From the AS/400 command line, call the WEBUSER command and pass two required parameters. For example:

```
Call PGM(WEBUSER) PARM('xxxxxxxxxx' '1')
```

- Parameter 1 = 10 byte user id to be enabled or disabled
- Parameter 2 = 1 byte with the following value:
  - "1" = Enable
  - "2" = Disable

### 5.2.2 WRKNETCUSR Command

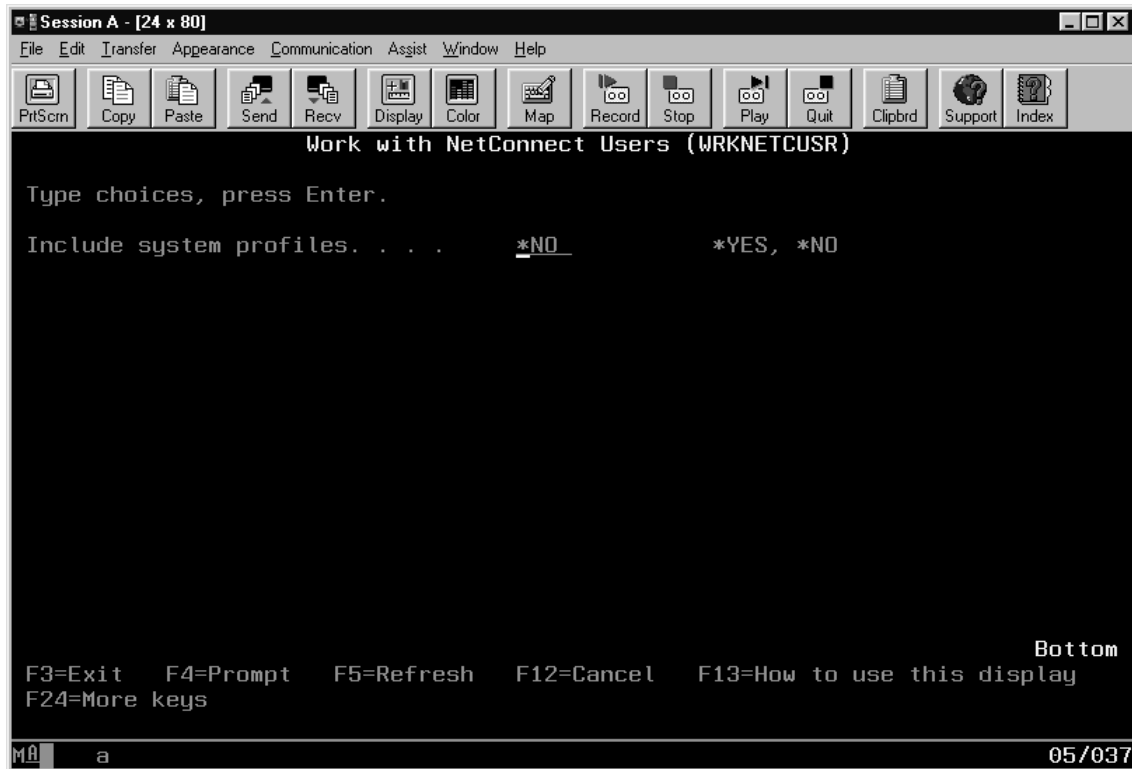
From the AS/400 command line, enable and disable AS/400 User Ids for NetConnect for OnDemand/400 usage with the following command:

```
WRKNETCUSR [F4]
```

- Pressing F4=Prompt, displays the 'Work with NetConnect Users' screen that allows the administrator to select whether or not to display system profiles in the list of User Ids. (The default is \*NO, do not display User Ids that begin with the letter 'Q').
- The administrator's user profile must have \*ALLOBJ authority to use this command.

### 5.2.3 Work with NetConnect Users Prompt

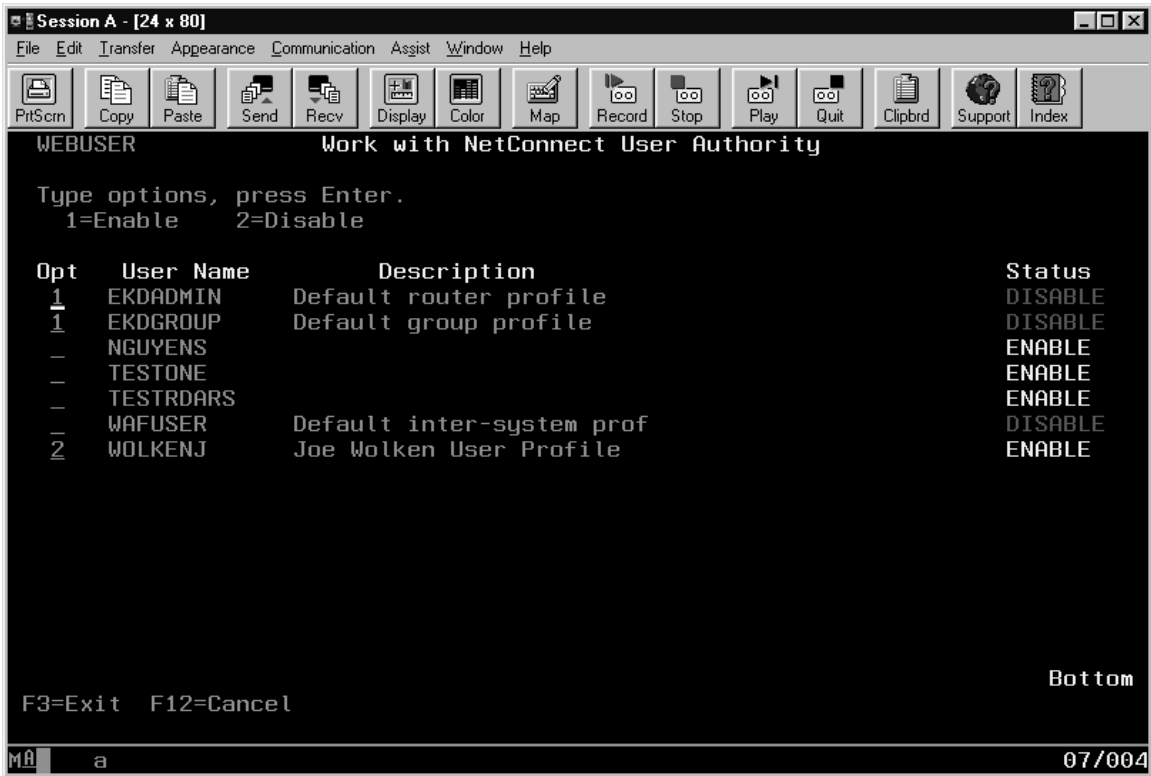
The ‘Work with NetConnect Users’ screen only displays if the administrator selects F4=Prompt with the WRKNETCUSR command. The screen allows the administrator to select to display system profiles along with non-system user profiles.



PAGE DEFINITIONS	
<b>Include system profiles</b>	Leave this value as *NO to not display those profiles that start with the letter ‘Q’, (system profiles). Change this value to *YES to display system profiles along with other user profiles.
<b>Enter</b>	Process the request. Display the ‘Work with NetConnect User Authority’ screen.

### 5.2.4 Work with NetConnect User Authority

The ‘Work with NetConnect User Authority’ screen displays if the administrator selects Enter with the WRKNETCUSR command or from the ‘Work with NetConnect User’ screen. The screen allows the administrator to enable and disable user profiles authority to NetConnect for OnDemand/400.



PAGE DEFINITIONS	
<b>User Name/Description</b>	Displays a list of all AS/400 User profiles. This list also includes AS/400 system profiles if *YES is entered on the 'Work with NetConnect Users' screen.
<b>Status</b>	Displays whether a user profile is currently enabled or disabled to use NetConnect for OnDemand/400.
<b>1=Enable</b>	Type 1 next to one or more User Names to enable the User Id to use NetConnect for OnDemand/400. More than one User Name may be processed at the same time.
<b>2=Disable</b>	Type 2 next to one or more User Names to disable the User Id from using NetConnect for OnDemand/400. Disable and Enable functions may be selected
<b>Enter</b>	Process the request. The screen Status is automatically updated with the new status. A combination of enable and disable requests may be processed with the same Enter command.

## 5.3 Enable Change Expired Passwords

In order to enable the ability for users to change their passwords after they have expired on the AS/400, the system administrator must perform the following additional steps:

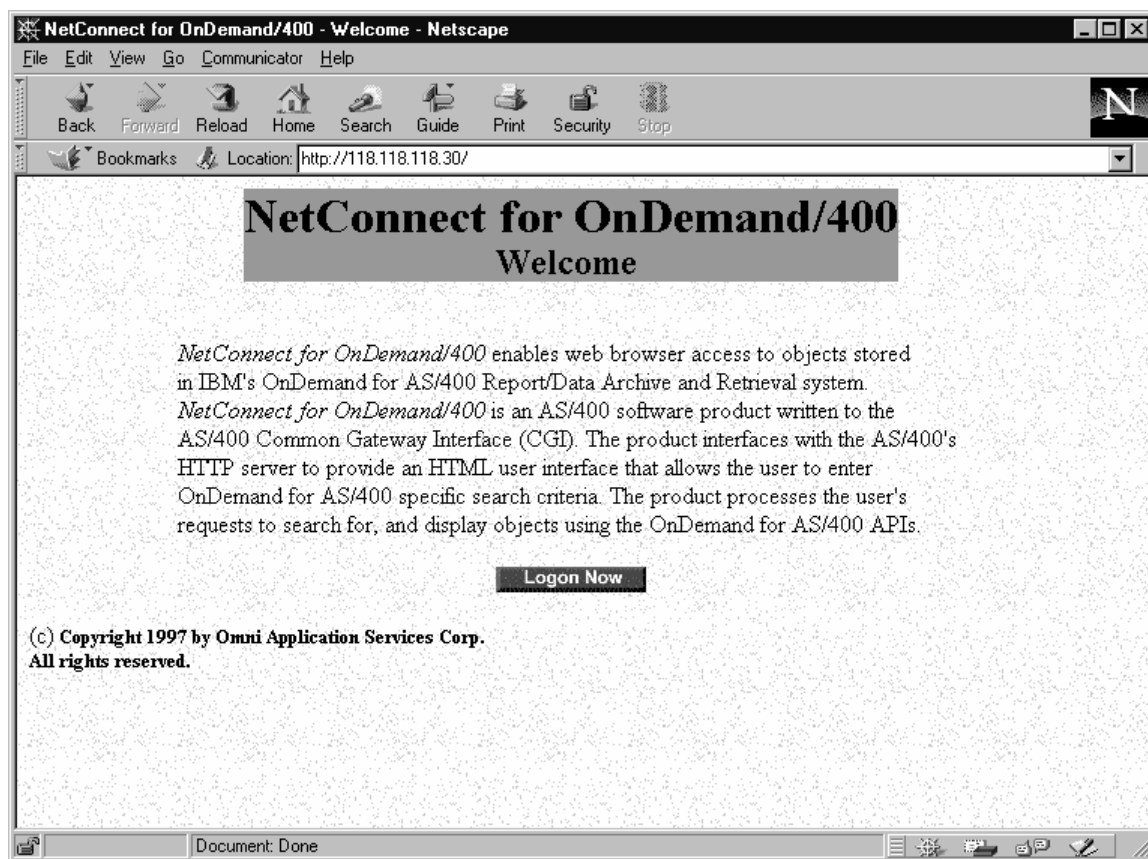
- Change the user profiles of the special HTTP user profiles QTMHHTTP and QTMHHTTP1 to add special authority \*SECADM.
- Enable all new users for NetConnect for OnDemand/400 and Enable again all user ids that were previously enabled. Use the WRKNETCUR command for ALL user ids.

## 6. Users Reference

To access OnDemand for AS/400, use the installed browser on the PC to access the URL associated with your AS/400 server. The AS/400 presents its Welcome page.

### 6.1 Welcome Page

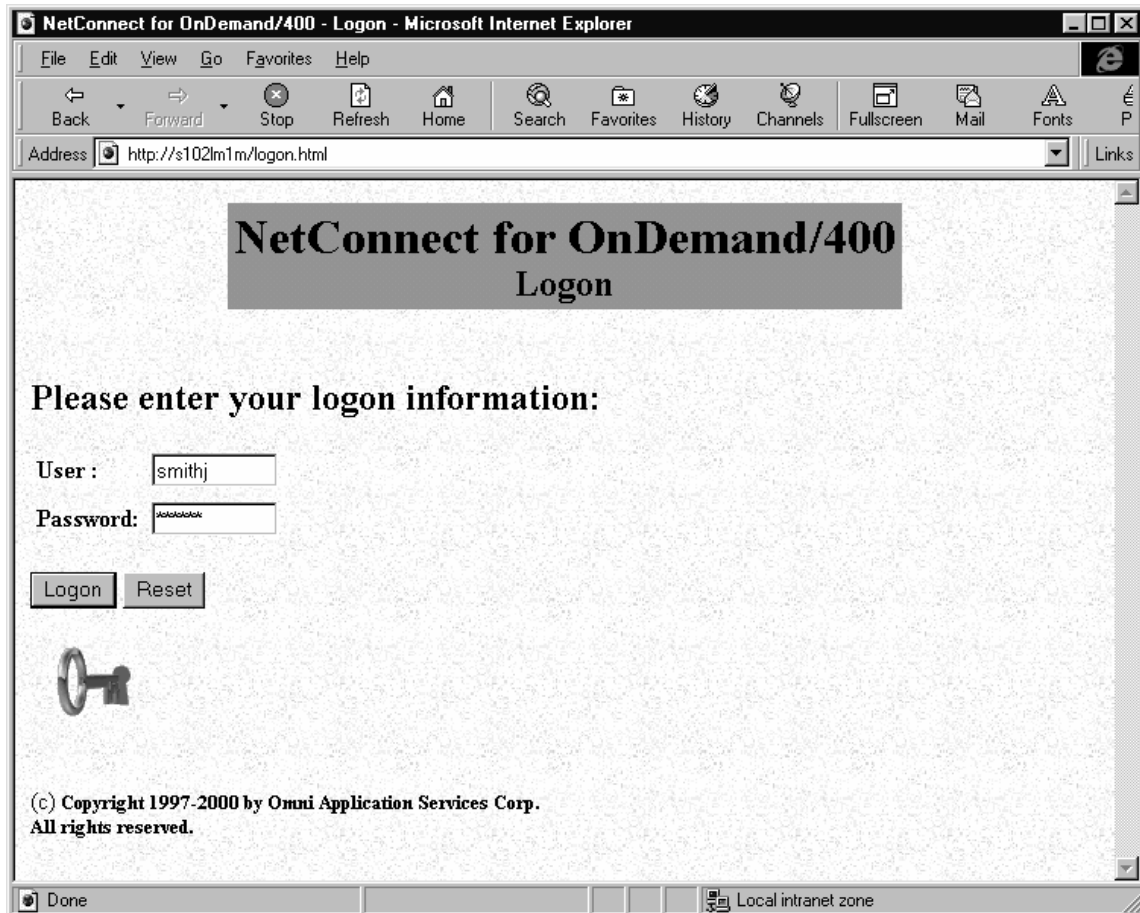
The Welcome page is the initial page configured to be served by the AS/400 HTTP Server. The following is a sample Welcome page that is included with NetConnect for OnDemand/400:



Select the Logon Now button to proceed to the NetConnect for OnDemand/400 Logon page.

## 6.2 Logon Page

The Logon page prompts the user for their AS/400 User ID and Password. For successful retrieval of objects from OnDemand the User ID must be properly authorized to NetConnect for Ondemand/400, the OnDemand for AS/400 application and to the reports requested.



	PAGE DEFINITIONS
<b>User:</b>	Type your AS/400 User ID.
<b>Password:</b>	Type the password associated with the User ID.
<b>Key:</b>	Proceed to the Change Password page.
<b>Logon</b>	Logon to NetConnect for OnDemand/400. Validates User ID information and if valid, returns the Folder Selection page. If invalid, then an error page is displayed.
<b>Reset</b>	Resets the entry fields on the page.

## 6.3 Change Password Page

The Change Password page prompts the user for their AS/400 User ID, current Password and new password twice for verification. An HTML page is returned with the appropriate response from the change password function. After changing the password the user must return to the Logon page and logon with the new password.

**NetConnect for OnDemand/400**  
Change Password

Please enter information:

User ID:

Current password:

New password:

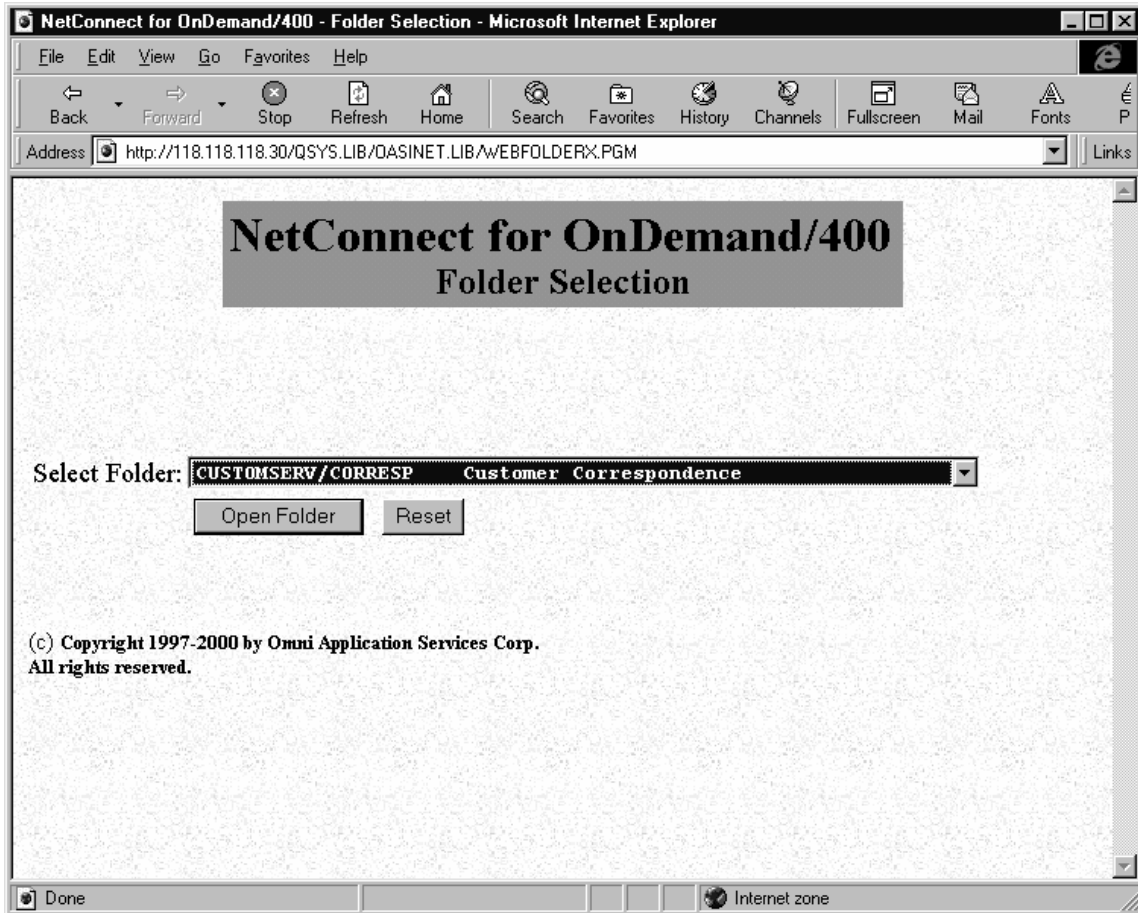
New password (verify):

(c) Copyright 1997-2000 by Omni Application Services Corp.  
All rights reserved.

	PAGE DEFINITIONS
<b>User ID:</b>	Type your AS/400 User ID.
<b>Password:</b>	Type the password associated with the User ID.
<b>New password:</b>	Type the new password to be associated with the User ID.
<b>New password (verify):</b>	Type the new password a second time for verification.
<b>Change</b>	Changes the AS/400 password. Displays an HTML message page confirming action taken. Return to Logon page to proceed.
<b>Reset</b>	Resets the entry fields on the page.

## 6.4 Folder Selection Page

The Folder Selection page presents a current list of OnDemand Groups and Reports in a scrollable list of Folders.



PAGE DEFINITIONS	
<b>Select Folder:</b>	Highlight one Folder from the alphabetical list of valid OnDemand for AS/400 Groups and Reports. Folders defined in OnDemand to be excluded are not displayed in the list. Empty folders are not displayed in the list.
<b>Open Folder</b>	Displays the Search Selection page listing the possible search fields for the selected folder.
<b>Reset</b>	Clears the entry in the Select Folder list box.

## 6.5 Search Selection Page

The Search Selection page presents the indexing fields specific to the selected Folder for the user to enter their search criteria.

NetConnect for OnDemand/400 - Search Selection - Netscape

File Edit View Go Communicator Help

Back Forward Reload Home Search Guide Print Security Stop

Bookmarks Location: http://118.118.118.30/QSYS.LIB/DASINET.LIB/WEBSELECTX.PGM

### NetConnect for OnDemand/400 Search Selection

Specify search range for Folder: CHECKSTMTS

From: To:

Account Number

SSN / Tax ID

Cust Name

Ending Balance

Date  YYYYMMDD  YYYYMMDD

Search Reset

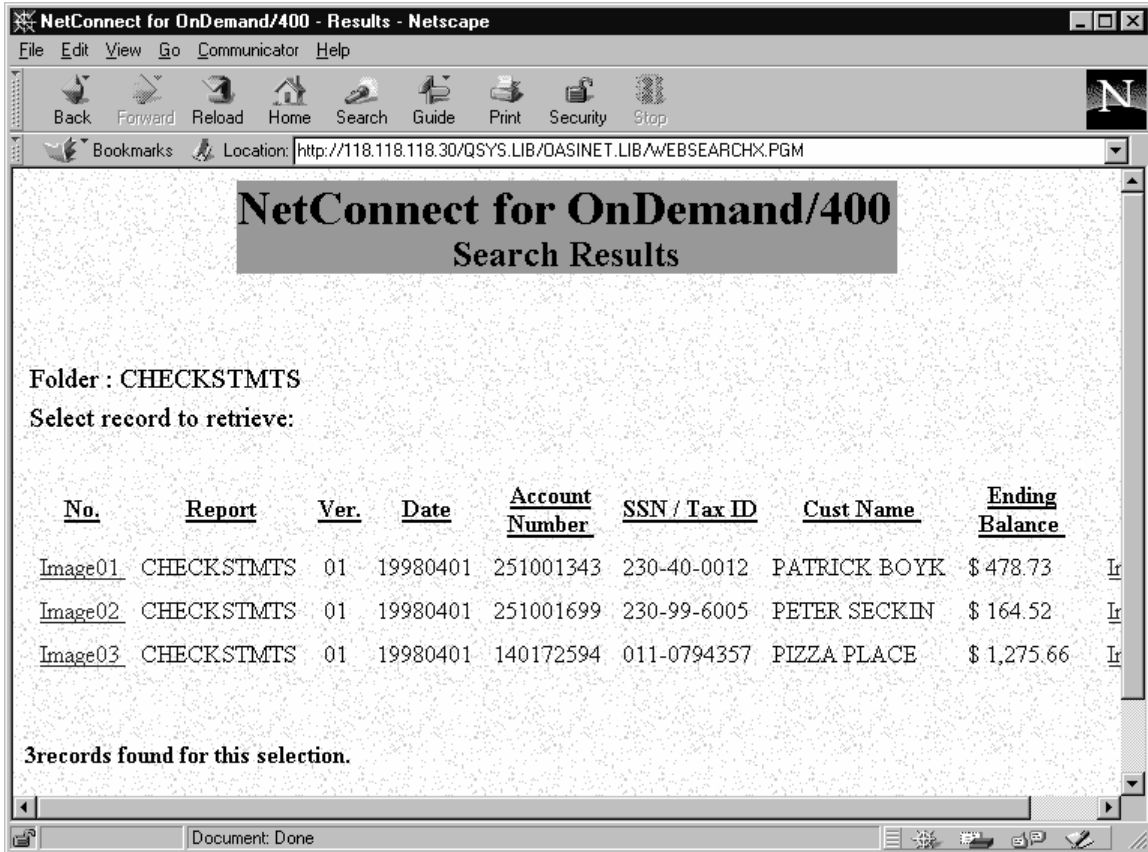
Document: Done

PAGE DEFINITIONS	
<b>Folder:</b>	Displays the folder selected for searching on the Select Folder page.
<b>From: Fields</b>	<p>Enter search criteria in one or more search fields. Search information must be entered for at least one of the five key fields or the date field.</p> <p>Searches are CASE sensitive. OnDemand for AS/400 stores index information in all UPPER case unless specified otherwise in the report definition.</p> <p>Generic (wildcard) searches are allowed. The generic search character at the end of a search argument is an asterisk '*'.</p> <p>The percent sign, %, for multiple characters and the underscore, _, for a single character are used for wildcard searches at the beginning</p>

	<p>or middle of a search argument. When using these characters, the asterisk must ALSO be included at the end of the search argument. For example in a field containing first and last name:</p> <p>%SMITH*, will find any one whose last name starts with SMITH.</p> <p>%ALL_N* will find anyone whose last name starts with ALLEN or ALLAN, or ALLIN, etc.</p>
<b>To: Fields</b>	<p>Specify a search range by entering search criteria in one or more search fields, in combination with entries in the From: fields.</p> <p>Searches are CASE sensitive. OnDemand for AS/400 stores index information in all UPPER case unless specified otherwise in the report definition.</p> <p>The '*' generic wildcard search character is invalid in either the From: field or the To: field when entering a search range.</p>
<b>Search</b>	<p>Displays the Search Results page listing the first twenty matching segments.</p>
<b>Reset</b>	<p>Clears all entries in the search fields.</p>

## 6.6 Search Results Page

The Search Results page presents the results of the Folder search for the user to select a segment to retrieve.



	<b>PAGE DEFINITIONS</b>
<b>Folder:</b>	Displays the folder selected for searching on the Select Folder page.
<b>Search Results</b>	<p>Highlight the record to retrieve.</p> <p>Search Results column labels are specific to the folder.</p> <p>Displays the first twenty resulting segments from the search. If twenty segments are listed, it is recommended to return back to the Search Selection page and narrow the search.</p>
<b>No. List Item</b>	Displays the highlighted segment in the browser. If the segment is an AFPDS formatted object then the IBM AFP Viewer plug-in must be installed in the browser.

## 7. Additional Information

### 7.1 Error Processing

Two general types of errors are possible:

- If there is an error accessing the AS/400 OnDemand/400 server then contact the AS/400 web administrator for assistance. It is possible that:
  - TCP/IP communications is not started on the AS/400.
  - HTTP Server is not started on the AS/400.
  - The AS/400 user id has not been authorized to NetConnect for OnDemand/400 using the WEBUSER command.
  - The browser is not pointing to the AS/400's correct TCP/IP address or system name.
  - An internet firewall is preventing access, and configuration changes are needed.
  - There are other communication errors.
- If there is an error processing a search or retrieve request from OnDemand for AS/400 then an HTML page will be displayed in the browser displaying the error code. Common errors are caused by:
  - An AS/400 user id not having been authorized to NetConnect for OnDemand/400 using the WEBUSER command.
  - An AS/400 user id not having OnDemand for AS/400 authority to access a report.
  - An invalid search combination being entered on the Search Selection page.
  - The appropriate viewer plug-in is not installed or properly configured in the browser.

## 7.2 HTTP Performance Hints and Tips

The following are items that may effect performance of the HTTP Server:

- When using the AS/400 CHGHTTTPA command, if you set the maximum number of servers too high, this will affect the performance of the HTTP servers satisfying browser requests.
- The TCP/IP protocol and application code always runs in the \*BASE pool on the AS/400 system. If the \*BASE pool is not given enough storage, TCP/IP performance, can be adversely affected. Although it is possible to run in less than 4000 KB of storage, to perform well, it is suggested that the \*BASE pool be configured to use at least 4000 KB of storage. You can use the WRKSYSSTS command to view and change pool sizes on the AS/400 system. Pool 2 is the base pool. Another alternative is to change the pool in which the TCP/IP jobs run.
- TCP/IP jobs, like other jobs on your system, are created from job descriptions and associated classes. The job descriptions and classes should be adequate in most cases, however, they may be changed to fit your configuration. The TCP/IP job descriptions, classes, and subsystem descriptions can be found in the QTCP or the QSYS library that was loaded in your system when TCP/IP was installed. Each application has a job description associated with it. This job description has a number of items associated with it that define how the application runs on the AS/400. One of these pieces of information is the routing entry compare value. This value identifies which routing entry in a subsystem description is used when this job is submitted. By changing that routing entry, you can select in which storage pool to run the jobs for a particular application. Other items that can be changed or selected on a job description include the job priority, the logging level for messages, and the initial library list. If the storage pool that you select to run the TCP/IP application jobs in is not large enough, excessive paging can occur. This directly affects performance on the AS/400 and the performance of the applications.

## 8. User Exit Programming

The following user exits allow the user to bypass the NetConnect for OnDemand/400 data entry HTML pages. User created programs may be written to replace the user exit stub programs supplied with the product.

By using a combination of programs written to these user exits, you can bypass the display of one or all of the standard HTML pages used to search OnDemand, displaying only the Search Results page.

### 8.1 Security exit - EXTLOGON

#### 8.1.1 Description

This exit program is called when user selects the logon button on the Logon HTML page. This program must return the following parameters to allow for mandatory AS/400 security checking.

#### 8.1.2 Parameters

User ID - 10 bytes Input/Output

Password - 10 bytes Input/Output

Return code - 1 byte Output. Space is OK. Any other character represents an error causing NetConnect to display an HTML page specifying invalid user id or password to the user.

#### 8.1.3 Usage Notes

One possible use of this user exit is to enable your users to enter a User ID and password combination that is not associated with the AS/400 or OnDemand/400. You may maintain a separate list of valid Account number/PIN number combinations that map to other valid AS/400 User Ids and passwords. If so, the information that is entered by the user may be swapped in this user exit by a custom program that returns a valid AS/400 User ID and password.

### 8.2 Folder exit - EXTFOLDER

#### 8.2.1 Description

This exit program is called after logon but before the product sends the Folder Selection HTML page. If the exit program returns a valid folder or group/folder name, then the product will not send the Folder Selection HTML page and will process the search selection using the passed folder or group/folder name. This program has 2 parameters:

#### 8.2.2 Parameters

User ID, 10 bytes Input

Folder name, 21 bytes Output

### 8.2.3 Usage Notes

This user exit enables you to direct your users to a specific OnDemand Report or Report Group that they have authority to.

## 8.3 Selection Exit - EXTSELECT

### 8.3.1 Description

This exit program is called after the Folder Selection page but before the product sends the Search Selection HTML page. If the exit program returns data in any valid search key, the product will not send the Search Selection HTML page and will continue with the Search Results HTML page. This program has 4 parameters:

### 8.3.2 Parameters

- User ID, 10 bytes Input
- Folder name, 21 bytes Input
- From key, 108 bytes Output
  - From key 1, 25 bytes
  - From key 2, 20 bytes
  - From key 3, 20 bytes
  - From key 4, 20 bytes
  - From key 5, 15 bytes
  - From date, 8 bytes
- To key, 108 bytes Output
  - To key 1, 25 bytes
  - To key 2, 20 bytes
  - To key 3, 20 bytes
  - To key 4, 20 bytes
  - To key 5, 15 bytes
  - To date, 8 bytes

### 8.3.3 Usage Notes

One possible use of this user exit is to limit a user to objects in OnDemand that are indexed by their user information. For example, if the User ID is associated with a Customer Number and Customer Number is Key 1 for a specific OnDemand Report then you can use the User Exit to search by only that Customer Number, and return a Search Result display with information for only that Customer Number.

## 8.4 List Exit - EXTLIST

### 8.4.1 Description

This exit program is called after the Search Selection page but before the product performs the search of OnDemand. If the exit program returns data in any valid search key, the

product will continue with the search and display the Search Results HTML page. This program has 4 parameters:

### **8.4.2 Parameters**

- User ID, 10 bytes Input
- Folder name, 21 bytes Input
- From key, 108 bytes Input/Output
  - From key 1, 25 bytes
  - From key 2, 20 bytes
  - From key 3, 20 bytes
  - From key 4, 20 bytes
  - From key 5, 15 bytes
  - From date, 8 bytes
- To key, 108 bytes Input/Output
  - To key 1, 25 bytes
  - To key 2, 20 bytes
  - To key 3, 20 bytes
  - To key 4, 20 bytes
  - To key 5, 15 bytes
  - To date, 8 bytes

### **8.4.3 Usage Notes**

One possible use of this user exit is to limit a user to objects in OnDemand that are indexed by their user information. For example, if the User ID is associated with a Customer Number and Customer Number is Key 1 for a specific OnDemand Report then you can use the User Exit to search by only that Customer Number, and return a Search Result display with information for only that Customer Number.

## 9. Programming Flow

The following diagram depicts the location of the user exit programs with respect to the display of the NetConnect HTML pages and other processing performed by NetConnect.

