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BusinessLink Technical Services

**Strategi
Administrator's Guide**



Version v1r7

This manual applies to Strategi version v1r7m0 and later, and was last revised in June, 2000.

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A Letter from the CEO

Thank you for your interest in ADVANCED BusinessLink Corp. and our Strategⁱ™ software.

Strategⁱ is the technology-leading, 100% native AS/400 e-business solution. It is a suite comprising four separate "best-of-breed" components, each architected around BusinessLink's philosophy of providing firms with the technological edge that will separate them from their competitors.

While the components are unique and exciting in themselves, Strategⁱ is much more. It was designed and architected to address the business issues faced in the development, deployment, and management of an e-business initiative. By combining all the Strategⁱ components, BusinessLink provides a single environment that enables you to build a bridge to the past (legacy apps through the Java applet) and a bridge to the future (HSM eBusiness applications).

This is why we believe you will call it your ebusiness Strategⁱ.

Sincerely,

Chris Lategan
Chief Executive Officer
ADVANCED BusinessLink Corp.



A Note to Readers of this Manual

Built on the premise that technological solutions are useless unless they provide real-world business benefits, Strategi has been architected to provide your organization a foundation to enable creative breakthrough e-business solutions. This manual has been designed to enhance your usability experience with Strategi as well.

The latest versions of this document and other Technical Support Bulletins can be downloaded from ADVANCED BusinessLink Corp.'s Support Website, <http://support.businesslink.com>.

You may print this in duplex format using Adobe's Acrobat Reader, which is available for download from <http://www.adobe.com/products/acrobat/readstep.html>. The latest version as of this writing is v4.05; earlier versions of Acrobat Reader may not support duplex printing.

With some installs of Adobe Acrobat, your printer may not resolve the characters correctly, and once printed, all characters will appear as a rectangles or as symbols. If this happens, you will need to select "Print as image" from the Acrobat print dialogue. This will cause the print to occur correctly.

If you have any questions, comments or suggestions, please feel free to contact either myself at the email address below, or the various local branches of the BusinessLink Technical Support Division at the phone numbers and email addresses in Appendix 1.

Sincerely,

BusinessLink Technical Services

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Documentation Conventions

This manual utilizes the following typographic conventions:

Example of convention	Description
Section Headings	Section Headings are printed in bold type.
<i>Prerequisites</i>	When needed, prerequisites will identify concepts and/or procedures the administrator needs to be familiar with in order to understand and implement the following information, and will be printed in italics.
Text	Section Text is printed in regular type.
Command Lines	Command Line examples are indented, bold, and printed in a larger font.
Code Examples	Code examples are indented, italicized and bold.
Alt + Shift + G	Keystrokes entered by the user.
http://www.businesslink.com	Hyperlinks will be underlined. If you have downloaded this manual from the BusinessLink website, you may click on any hyperlink to be taken directly to the related website.

Microsoft and Netscape Web Browsers

For sake of brevity, this manual will use the “common” abbreviations and refer to Microsoft's Internet Explorer as “MSIE”, and Netscape's Navigator and Communicator products communally as “Netscape”.

Chapter 1 - Strategi: Introduction

With “Strategi by BusinessLink”, the third generation of our JAVA™ powered client technology, ADVANCED BusinessLink Corp. is the first in the world to bring Digital Certificate authentication, 128-bit SSL, applet-provider authentication and built-in Push technology to an AS/400 client.

Strategi is the first and only JAVA-based Browser/Server solution with the cryptographic support needed for e-Business/e-Commerce applications.

Strategi provides full AS/400 client functionality, including 5250 emulation with on-the-fly GUI, printing and file transfer using a built-in Push Technology engine, API's for client/server application development, industrial strength cryptography and comprehensive, AS/400-centric user and security management, all in a tiny applet (typically under 100k depending on browser).

Other emerging Java emulators and GUI conversion applets can run up to 1Mb in size, making them impractical for deployment to browser users over the Internet. Strategi, on the other hand, enables fast, simple deployment to a large, remote user community without the struggles associated with installing, configuring, and managing dedicated client software.

Host-based clients traditionally rely on user and password entry to determine client identity. BusinessLink brings Digital Certificate-based client authentication to the AS/400. Host administrators can require that users obtain client certificates signed by certificate issuing authorities such as Verisign, Inc. No sign on screen will be offered to users unless they match the required certificate level and identification details. Even then, users can be required to sign on with profiles that specifically match their certificate details.

To ensure privacy of data sent and received, the Strategi can be configured to use 128-bit SSL key exchange with a licensed RSA/RC4-128 cryptography engine. (Non-US versions may be limited to RC4-40 or RC4-56 to comply with US Department of Commerce restrictions on cryptography).

Reports and files transferred can also be SSL secured. Given that the AS/400 has no support for secure FTP, Strategi provides the only way to securely transfer AS/400 files and reports across the Internet.

Finally, the applet is digitally signed, authenticating it as the trusted, original copy supplied by ADVANCED BusinessLink Corp. Signing guarantees against a counterfeit applet being substituted in its place by a hacker, etc. This commonly overlooked risk is important, since a false applet could be introduced to capture passwords and other critical data before it was discovered.

No TELNET or FTP Needed

You need only read the volumes of industry press relating to the lack of security inherent in Telnet and FTP servers on the AS/400 to appreciate that it is considered a

serious risk for AS/400's on the Internet. Telnet passes all 5250 data in the clear across the Internet and gives a sign on screen to almost every generic client. FTP has serious exposure to brute force attack, and can create sizeable security holes.

Strategi does not require the use of either Telnet or FTP. Although it runs native on the AS/400, Strategi obtains and manages its sessions directly with OS/400, and adds a sophisticated management infrastructure to deal with the delivery of AS/400 sessions.

Built-In Webserver, HSM, Growth Strategy

The Strategi system contains a native AS/400 version of ADVANCED BusinessLink Corp.'s high performance web server, "BusinessLink/WEB". As well as serving the applet, Strategi provides an extremely fast HTTP-server, including SSL 3.0 and client digital certificate authentication.

Strategi also includes BusinessLink's High Speed Messaging (HSM) technology. HSM is used to create web applications, allowing HTML an frontend web interface to communicate with backend AS/400 programs written in RPG, CL, or any other AS/400 language. HSM uses a template based architecture to populate HTML template pages, rather than the traditional overheads associated with generating HTML from scratch, as with CGI-BIN. The result is much faster performance and greater scalability than existing AS/400 webserving alternatives, particularly for interactive applications.

Prerequisites

The Strategi applet is certified 100% Java by Sun Microsystems. In short, this qualification means that the applet should function properly on any platform that is 100% Java compliant and has a properly configured TCP/IP connection. Although most recent versions of both Netscape Communicator/Navigator and Microsoft Internet Explorer are compliant, some versions are not. This section outlines exactly what the Strategi applet requires for successful operation.

How the Strategi Java Applet Works

When a browser client enters the URL of the page containing the HTML statements which load the applet, the sequence of events is as follows:

1. The applet is transferred to the local PC on the same TCP/IP port that loaded the page.
2. The applet initializes, starts, and attempts to make a connection back to the same URL specified on the request using TCP/IP port 43856 (or port 80 for Strategi systems with HTTP Tunneling configured).

3. The user is prompted for a user name and passphrase. If a valid user name and password is specified, the applet obtains a 5250 session and presents the user with a AS/400 sign on screen (note: as a system administrator, you can configure Strategi to bypass an AS/400 sign on screen and take the user directly to their AS/400 application; this is discussed later in this manual).

The Strategi 5250 Java applet needs to have a certain environment to function properly:

- The client browser must have a 100% compliant JVM (Java Virtual Machine). This is currently true with Netscape 3.01+ and MSIE 3.02+.
- The connection that the applet establishes is used for stream communications. In other words, the established connection must not be interrupted or terminated by firewalls, proxies or timeouts/disconnects on Internet connections. Doing so will terminate the TCP/IP connection.
- For Strategi systems, if the AS/400 is behind a firewall, port 43856 must be open for inbound and outbound TCP traffic or the applet must be configured to use HTTP Tunneling. Adding the applet parameter statement “**<param name=http_tunnel value=“fallback”>**” will allow the applet to first try port 43856 and revert to port 80 if the initial connection attempt on port 43856 fails.

Strategi runs on OS/400 V4M2M0 or above, with TCP/IP. No prerequisite software is required; system administrators need only load the Strategi software onto your AS/400 and configure it; users connect via a Java-compliant browser on an Internet- or intranet-connected PC.

Applet Operational Requirements

Strategi needs the following environment in order to operate properly:

- Workstation platform is Windows 95/98/NT.
- Browser version is NS 3.01+ or IE 3.02+.
- Workstation TCP/IP is configured properly.
- Workstation TCP/IP connection is stable.
- Workstation has Winsock client installed if using a proxy server.
- Firewall (if present) has port 43856 open for TCP traffic.
- Firewall (if present) supports stream I/O.
- Firewall (if present) does not terminate connections after a specified period of time.

AS/400 Operating System

Strategi requires AS/400 operating system version V4M2m0 or higher. This can be determined by displaying data area QGPL/QSS1MRI.

AS/400 Command Line Example:

DSPDTAARA QGPL/QSS1MRI

AS/400 Basic TCP/IP Services

Strategi will require the use of one TCP/IP interface on the AS/400. It does not require any support from common TCP/IP applications such as FTP, Telnet, etc.

AS/400 Tape Device or CD Device

Strategi requires a 8mm DAT tape device capable of supporting 2.0 GB format, or a standard AS/400 CD-ROM for the Strategi software installation. The installation software is currently under 20MB in size. Other software installation options are available if 8MM DAT or CD-ROM support cannot be obtained; contact BusinessLink Technical Support for details.

Troubleshooting

There are a few basic messages which your users may receive when attempting to connect to your AS/400 through Strategi.

For your convenience, these are listed in Appendix # 8, “Troubleshooting Strategi Connections”, below.

Note to Current BusinessLink Customers

Strategi is fully capable of co-existing with your current CoProcessor-based BusinessLink/WEB (with BusinessLink for JAVA) and BusinessLink/REMOTE products. Please contact your sales representative for more information.

Chapter 2 – Installing Strategi

Verify Installation Requirements

Before beginning the installation, please ensure the following requirements are met:

1. The AS/400 operator responsible for the installation must have an AS/400 user profile with *SECOFR class authority, and must have physical access to the AS/400 device into which the Strategi installation media will be placed.
2. The AS/400 onto which Strategi is to be installed must have a base OS of at least V4M2M0. The OS version should be confirmed by displaying AS/400 data area 'QSS1MRI' in library 'QGPL', rather than relying on written records.
3. The AS/400 library 'QSYS2' must be on the system portion of the library list.
4. The AS/400 must have at least 25MB of free space for the Strategi software. Working with System Status will display the total and percentage ASP available.
5. Basic TCP/IP services must be installed and active on the AS/400. Subsystem 'QSYSWRK' must be running with job name 'QTCPIP' active.

Note: Strategi will require the use of one TCP/IP interface on the AS/400. If other HTTP servers are currently running on the AS/400 there are several options available:

1. For IBM supplied HTTP servers, end the HTTP server and reconfigure the autostart parameter to ***NO**. This will prevent the HTTP server from starting every time TCP/IP is started on the AS/400.

Alternately, you may do the following:

2. Add another TCP/IP interface to the AS/400 for use by Strategi. If this step is taken, please note the TCP/IP address added as it will be required for the Strategi installation program.

The reason for this configuration is due to the fact that applications cannot share the same listen socket of a single TCP/IP address. An important point to note is that with some webserver AS/400 applications, simply adding another TCP/IP interface will not completely solve the problem. The order in which HTTP servers are started must be modified. For example, adding a TCP/IP interface, starting the IBM HTTP server, and then starting Strategi will not be successful since the IBM HTTP server will see another available TCP/IP interface and acquire it by default. The end result is that Strategi will not be able to start. The solution is to start Strategi before starting other HTTP servers. This will allow Strategi to acquire its dedicated TCP/IP interface and the other HTTP server(s) will use any remaining TCP/IP interfaces available.

Starting the Installation

To load Strategi on your AS/400, the system administrator needs to sign on as QSECOFR.

1. Insert the Strategi tape or CD in the appropriate drive, and execute a **LODRUN** command (if you have multiple tape devices, you must also specify the tape device).

Syntax for command is “LODRUN <device name>”. This will load all Strategi objects from the media to QTEMP, then prompt you for the installation command. (If electronic transfer was used, prompt the command QTEMP/INSTALL after you have completed the restore.)

2. In a few minutes, the Install command will prompt the following information. Specify the appropriate parameters and execute the installation program. Ensure the following settings are configured:

```
QTEMP/INSTALL      ACTION(*INSTALL or *UPGRADE)
                   LIB(STRATEGI)
                   SBS(STRATEGI)
                   DIR(/STRATEGI)
                   IPADD(*ALL)
```

ACTION

This will be either ***INSTALL** or ***UPGRADE**.

***INSTALL** should be used if Strategi is not currently installed on the AS/400. If you are unsure, an easy way to verify is to see if the user profiles SGIJOBOWN or SGIJOBCTL exist on the AS/400. If they do, Strategi has been previously installed.

For ***UPGRADE**, it is important that the library that Strategi was originally installed to (i.e. “Strategi” by default, or whatever library you specified on the original installation) ***not*** be on either the system or user library lists.

LIB

Destination library of Strategi software. Default: “STRATEGI”.

SBS

Subsystem that Strategi will run under. Default: “STRATEGI”.

DIR

IFS folder where documents will be stored. Default: “/STRATEGI”.

IPADD

The TCP/IP addresses that Strategi will listen on for incoming HTTP requests. The default value for this is ***ALL**.

It is suggested you leave the Library/Subsystem/Directory names set to the system default of STRATEGI. If you leave IP Address set to ***ALL**, the system will search for the correct Internet or intranet IP address. The web server will “listen” on all IP addresses on port 80 (and/or 443, as appropriate) for incoming connections.

If other HTTP servers are running on the AS/400, Strategi may not start properly as the other HTTP application will bind port 80/443, so Strategi will fail in the attempt to bind that IP address itself.

Your options are to either shutdown the existing HTTP server, or create a new TCP/IP interface on the AS/400 and specify its address in this parameter.

If you have multiple Internet/intranet connections, you can enter the correct IP address you want Strategi to serve. Specifying an IP address will force Strategi to service requests on that IP address only, instead of all TCP requests made to an AS/400 interface.

3. Licensing keys must be added for each installation. BusinessLink’s Technical Support Division will provide these to you; please call and request them when you are ready to perform the installation.
4. After Strategi completes the installation, you will be presented with a normal AS/400 screen. Type in **GO STRATEGI/SGI**, and you will be presented with the Strategi Main Menu, as displayed below:

```
SGI                      Strategi by ADVANCED BusinessLink
Select one of the following:
    1. Work with Users
    2. Work with Groups
    3. Send a File

    4. Work with Connections
    5. Work with FileCabinet
    6. Work with Web Sites
    7. Work with HSM servers
    8. Work with Strategi Values

    11. Startup
    12. Shutdown

Selection or command
==> █

F3=Exit   F4=Prompt   F9=Retrieve   F12=Cancel
F13=Information Assistant   F16=AS/400 main menu
```

Figure 1, Strategi Main Menu

5. Enter option #8 to start Strategi.
6. Once complete, do WRKACTJOB and verify that the Strategi subsystem is active with the following jobs:

STRATEGI
COMMSSERVER
HOSTSERVER

HTTPSERVER
HTTPTHREAD
HTTPTHREAD
...
PUSHWRITER

7. From the AS/400 command line, work with the HTTPSERVER job.

Display the joblog and verify that listen sockets were successfully opened. If not, some other HTTP application has bound the socket. Determine the cause and remedy as appropriate. HTTPSERVER job *must* be listening correctly for Strategi to operate properly.

8. Create your first Strategi User. Please refer to Chapter 4, “Creating Strategi Users” for complete instructions.
9. Test Strategi by signing in as the Strategi user and working on your AS/400.

From start to finish, the Strategi installation will normally only take about 15 – 30 minutes. Once the installation is complete, the goal should be to start Strategi, create a Strategi user registration and sign on to the AS/400 for verification.

Chapter 3 – Configuring Strategi

Selecting option # 6, “Work with Strategi Values,” from the Strategi Main Menu displays the window below:

```
Work with Strategi Values SEATTLE7
Position to . . _____
Type options, press Enter.
2=Change 5=Display
Opt Keyword      Type  Description
█ MENUDETECT    GUI  Menu Detection
— NODOTMENUITEMS GUI  Generate "No-dot" Menu Items
— USEHIDDEN     GUI  Use Hidden Text For Buttons
— CONNECT#      IDX  Last Connection Number
— DELETEDSITE#  IDX  Deleted Site Number
— HANDLENBR     IDX  Last File Handle Number
— HSMREFERENCE  IDX  HSM Internal Reference Number
— REF#          IDX  Last Transmission Reference Number
— USER#        IDX  Last User Number
— JAVADIRDFLT  JVA  Java HSM Server Directory Default
— IFSROOT      NAM  Root Folder for all Strategi IFS Objects
— PRODUCTCODE  NAM  Product Code
```

Figure 2, Work with Strategi Values

Pressing **Page Down** displays the next screen:

```
Work with Strategi Values SEATTLE7
Position To . . _____
Type options, press Enter.
2=Change 5=Display
Opt Keyword      Group  Description
█ PRODUCTNAME    NAM  Product Name
— RELEASE        NAM  Product Release Version
— SBSNAME        NAM  Subsystem Name
— ALERTMSGQ      OPR  Alert Message Queue
— LOGDIAGNOSTICS OPR  Log Diagnostic Messages in Job Logs
— LOGLEVEL       OPR  Logging (0=None 1=Norm 2=Ext 7=Diag
— LOGMSGQ        OPR  Logging Message Queue
— HTMLFIXEDFONTSIZE PRT  Fixed Font Size for HTML Font Tag
— HTMLPAGETABLEHEIGHT PRT  Height Value for HTML Table Data Tag
— PRINTFORMAT    PRT  Print To Format
— PRINTWIDTHDETECTION PRT  Print Width Detection
— RTFFONTNAME    PRT  RTF Font Name
```

Figure 3, Work with Strategi Values, continued

Pressing **Page Down** displays the next screen:


```

Work with Strategi Values                                     SEATTLE?
Position To . . . _____

Type options, press Enter.
2=Change 5=Display

Opt Keyword      Group  Description
█ RTFFONTSIZE    PRT   RTF Font Size
— RTFGOLANDSCAPE PRT   RTF Go Landscape
— RTFMARGINS     PRT   RTF Print Margins
— RTFPAPERSIZE   PRT   RTF Paper Size
— TOPMARGINLINENUMBER PRT   Top Margin Equivalent Skip-To Line
— FORCELOGIN      SEC   Force HTTP Login Always
— FORCELOGINS    SEC   Force HTTP Login to Use SSL
— IDLEUSERTIMEOUT SEC   Idle User Timeout Value
— DEVICENAMEPOSITION VRT   Sign On Screen Device Name
— HTTPKEEPALIVE  VRT   HTTP Keep Alive Parameters
— PASSMORD       VRT   Sign On Screen Password Field
— SESSIONS       VRT   Maximum Number of Virtual Sessions

```

Figure 4, Work with Strategi Values, continued

Pressing **Page Down** displays the next screen:

```

Work with Strategi Values                                     SEATTLE?
Position To . . . _____

Type options, press Enter.
2=Change 5=Display

Opt Keyword      Group  Description
█ SIGNONSCREEN1  VRT   Sign On Screen Definition 1
— SIGNONSCREEN2  VRT   Sign On Screen Definition 2
— SIGNONSCREEN3  VRT   Sign On Screen Definition 3
— SIGNONSCREEN4  VRT   Sign On Screen Definition 4
— SIGNONSCREEN5  VRT   Sign On Screen Definition 5
— STRATEGIUSER   VRT   Sign On Screen User Info Field
— TERMINALNAME   VRT   Virtual Terminal Name Prefix
— TERMINALTYPE   VRT   Virtual Terminal Type
— TERMINALVARY   VRT   Vary On of User Devices
— USRPRF         VRT   Sign On Screen User Profile Field
— DEFAULTURL     WEB   Default URL Filename
— DYNAMICTHREADS WEB   Number of Dynamic Web Server Threads

```

Figure 5, Work with Strategi Values, continued

Pressing **Page Down** displays the next screen:

```

Work with Strategi Values                                     SEATTLE?
Position To . . . _____

Type options, press Enter.
2=Change 5=Display

Opt Keyword      Group  Description
█ HTTPMESSAGEPATH WEB   HTTP Message Path
— HTTPTRANSMISSIONMAX WEB   HTTP Transmission Maximum Bytes
— LOGINURL       WEB   Login URL Filename
— SERVERID       WEB   Web Server Identification
— SSLSESSIONTIMEOUT WEB   SSL Session Timeout in Seconds
— THREADS        WEB   Number of Initial Web Server Threads
— WEBMASTERADDRESS WEB   Webmaster TCP/IP Address
— XAADISPLAYMODE XAA   Display Mode
— XAADISPLAYWINDOW XAA   Display Window
— XAARENTERKEYACTION XAA   Enter Key Action
— XAARETRIEVE    XAA   Retrieve Pushfiles
— CLIENTCCSID    XLT   Client CCSID

```

Figure 6, Work with Strategi Values, continued

Pressing **Page Down** displays the next screen:

```

Work with Strategi Values                                     SEATTLE?
                                                           Position To . . _____
Type options, press Enter.
  2=Change  5=Display
Opt Keyword      Group  Description
█ HOSTCCSID      XLT   Host CCSID

```

Figure 7, Work with Strategi Values, continued

Pressing **F20** allows you to display a subset of the Strategi Values based on the Value type:

```

Work with Strategi Values                                     SEATTLE?
                                                           Position to . . _____
Type options, press Enter.
  2=Change  5=Display
Op .....:
- :      : Please enter your subset information:      :
- :      : Type . . . . . : █ GUI, IDX, JVA, NAM, OPR, PRT :
- :      : SEC, VRT, WEB, XLT :
- :      : F12=Cancel      :
- :      : .....:
- REF#      IDX   Last Transmission Reference Number
- USER#     IDX   Last User Number

```

Figure 8, Work with a Strategi Values Subset

Entering a value (such as “GUI” and pressing **Enter**) displays a screen similar to the one below:

```

Work with Strategi Values                                     SEATTLE?
                                                           Position to . . _____
Type options, press Enter.
  2=Change  5=Display
Opt Keyword      Type  Description
█ MENUDETECT     GUI   Menu Detection
- NODOTMENUITEMS GUI   Generate "No-dot" Menu Items
- USEHIDDEN       GUI   Use Hidden Text For Buttons

```

Figure 9, Work with a Strategi Values Subset, continued

Note: pressing **F11** on these screens presents you with the current values for the selections on that screen.

Keywords

MenuDetect

Sets the limits on a DDS screen wherein Strategi looks for a certain identifier to determine if a screen is a menu screen (can be used in conjunction with NoDotMenuItems and UseHidden). This is how Strategi identifies whether to display clickable menu buttons for menu items on a screen.

Entering “2” to change and pressing **Enter** presents several parameters, Top Rows, Bottom Rows and Text. If the phrasing in “Text” is found within the xxx top rows of the screen or the bottom xxx rows, then Strategi will consider the DDS to be a menu screen and will display the clickable mouse buttons in front of numbers which have a dot (“.”) following them. Note: the actual image displayed here is identified in the HTML which loads the Strategi Java applet, and can be turned off within that HTML’s parameters if you do *not* want the button to display at all.

NoDotMenuItems

Determines if menu items will be given without the trailing period (“.”), and is discussed in more detail in “Java Menu Rules”, below.

UseHidden

If the DDS screen has hidden text, setting this keyword to YES will cause clickable “buttons” to be assigned to the hidden text, presuming it meets the Java menu rules as described in “Java Menu Rules”, below.

Connect #

This represents the total number of connections through Strategi since installation. (This is provided for information purposes only).

DeletedSite#

Assigns a unique reference number to a deleted website, for purposes of saving the file(s).

Handle NBR

Displays the last File Handle number used by the Strategi system. (For information only.)

HSM Reference

Displays the last HSM Internal Reference number used by the Strategi system. (For information only.)

Ref#

The Transmission Reference number for the last Strategi connection. (For information only.)

User#

The Strategi registration # of the last user to connect to Strategi. (For information only.)

JAVADIRDFT

The default directory for the Java HSM server. (For information only.)

IFSRoot

The root folder for all Strategi IFS objects, set at the time of installation. (For information only.)

ProductCode

The product designation as assigned by ADVANCED BusinessLink Corp.

ProductName

The product name as assigned by ADVANCED BusinessLink Corp.

Release

In the example provided, 0101005, this refers to the version # (01), modification # (01), and build # (005).

SBSName

The Strategi subsystem name as assigned by ADVANCED BusinessLink Corp. This is set at the time of installation. (For information only.)

AlertMSQ

Sets the Queue Name and Library for the Alert Message Queue.

LogDiagnostics

Turns the Strategi subsystem's logging

LogLevel

Sets the level of logging activity. Options are 0 (None), 1 (Normal), 2 (Extended) and 7 (Diagnostic).

LogMSGQ

Identifies the queue name and library where log messages are recorded.

HTML Fixed Font Size

Sets a fixed font size to display reports sent to the user in a .htm format. You can change this as desired, but leaving this parameter set to the default "00" means the font size will be determined automatically depending on the "printed page" size of the outputted report. For example, reports with 160 columns would display at a smaller font size than reports which were only 80 columns wide; they would need to be at the smaller font size in order to print out properly and be easier to read on screen with a minimum of side-to-side scrolling.

HTML Page Table Height

Sets the HTML table height command at which to display reports sent to the user in a .htm format. You can change this as desired, but leaving this parameter set to the default "0000" means the browser will break up the table in the outputted HTML automatically so that it prints to paper at a suitable size so as to fit onto a normal sheet of paper.

However, if you find that, due to your printer's margins or using an odd-sized paper, that the last few lines of print are dropped off the page, you can set this number manually to a figure which will cause your reports to output to paper properly.

PrintFormat

Determines the format style of the outputted file. The only possible special values available are ***HTML**, where the file is outputted site name (described above) is used for the description, and ***RTF**, where the description is not changed.

PrintWidthDetection

This parameter is used to control the way in which Strategi calculates print width (which in turn controls the way fonts are sized, and whether pages are aligned portrait or landscape). The special values are: ***NONE** uses the actual spool file width as defined by the print file; ***OPTIMIZED** searches the first 200 lines for rightmost character; ***FULL** searches entire spool file for rightmost character.

RTF FontName

Identifies which font, resident on the end-user's PC, used when displaying an .RTF file received from the AS/400 through Strategi. The default used is Courier New as that is a standard Windows font, and is a fixed width, non-proportional font. The system administrator should be aware that setting this to a proportional font (such as Arial) vs. a fixed width font (such as Courier New) will mean that vertical columns on the page will fail to align properly, resulting in the output having a jumbled appearance.

RTF FontSize

Identifies the font size used when displaying an .RTF file received from the AS/400 through Strategi. The default used is 12. The system administrator should be aware that setting this to a larger or smaller number will affect the look of the output; if a smaller number is used, the text may appear "bunched up" on the page; if a larger font is used, it may result in the text wrapping around to the following line, resulting in the output having a jumbled appearance.

RTF GoLandscape

Determines the maximum number of columns and font size to use when generating a report in a .RTF landscape format.

RTF Margins

Determines the margins to use when creating (and, thus, subsequently printing) the .RTF file. It is recommended these settings be left at a minimum of ½ inch, as that is the minimum margin required by most laser printers. Setting the margin to less than ½ inch may result in a slightly larger display area within the .RTF file, but may result in part of the .RTF page being "chopped off" when output to the end-user's printer.

RTF PaperSize

Determines what size of paper the end user has in their printer. The only possible special values available are **1**, where the printer is stocked with A4-sized paper, and **2**, where the printer is stocked with 8 ½” x 11” paper.

TopMarginLineNumber

Determines how many lines down from the top of the physical page is drop before beginning the text of the .RTF file. As the standard output is 6 lines per inch, dropping 3 lines results in a ½ inch top margin, which is the margin needed by most laser printers to avoid part of the printout being “chopped off” because it falls outside the printer’s printable area.

Force Login

This setting will controls whether Strategi will accept a browser-saved password with website authentication. If set to 0, Strategi will allow a user to log in if the browser has saved their password and submitted it. If set to 1, the user will be forced to log in even if the browser has been set to remember it.

Force Login SSL

Determines whether logging in through HTTP will always be SSL enabled. Note: in order for this to work, your organization must have purchased the Strategi SSL add-in module; if the module has not been purchased, this setting is ignored.

Idle User Timeout

Determines how many minutes of inactivity must lapse before the user is logged out.

DeviceNamePosition

Row and Column where the first character of the Sign On Screen Device Name will be found.

HTTP KeepAlive

This parameter controls behavior of the HTTP server in relation to how many requests a specific connection can handle at one time.

Password

Row and Column on the AS/400 sign on screen where the first character of the AS/400 Password will be found.

Sessions

This indicates the maximum number of Strategi sessions which may be hosted concurrently; users attempting to connect after the maximum concurrencies are reached will receive a “no more connections available” message. As current connections are freed (as users exit from their Strategi session), new users will be able to connect, up to the licensed number of concurrent Strategi users.

This number cannot be increased beyond the number of concurrent licenses your organization has purchased from ADVANCED BusinessLink Corp. If you need

additional concurrent Strategi connections, please contact your ADVANCED BusinessLink Corp. sales representative for more information.

SignonScreen1, 2, 3, 4, 5

These settings select the Row and Column where the first character of the indicated text will be found. They are used by Strategi to determine if the screen being presented to the user is an AS/400 sign on screen; all criteria for all 5 entries must be met for the screen to be considered a sign on screen, and a username and password to be accepted.

For example, in the default setup, SignonScreen1 is “01036Sign On”, SignonScreen2 is “06017User” and SignonScreen3 is “Password . .”.

This means that, to be considered as an AS/400 sign on screen, the characters “Sign On” must begin in row 1, column 36, “User” must begin in row 6, column 17, and “Password . .” must begin in row 7, column 17.

Note: Capitalization, spacing and punctuation are important here, and must match your AS/400 sign on screen *exactly*. If you modify the sign on screen and do not change these settings to match, users will receive an AS/400 sign on screen and can input their user name and password, but Strategi will not see this as a valid sign on screen and will refuse them access to the AS/400.

StrategiUser

The row and column location of the Sign On Screen User Info Field on the Sign On Screen.

TerminalName

Identifies the Virtual Terminal Name Prefix. Please do not change this setting, except at the request of BusinessLink Technical Support.

TerminalType

Identifies the Virtual Terminal type. Please do not change this setting, except at the request of BusinessLink Technical Support.

TerminalVary

Controls varyinbg on of user devices. Please do not change this setting, except at the request of BusinessLink Technical Support.

UsrPrf

The row and column location of the Sign On Screen User Profile Field on the Sign On Screen.

DefaultURL

Identifies the webpage name to use as the default URL. For example, if someone typed in www.businesslink.com to get to our website, and we had the DefaultURL set to [/homepage.htm](http://www.businesslink.com/homepage.htm), they would be taken to www.businesslink.com/homepage.htm. Alternately, if we had the DefaultURL set to [/main.htm](http://www.businesslink.com/main.htm), they would have been take to www.businesslink.com/main.htm instead.

DynamicThreads

The maximum number of “threads”, or simultaneous Java-serving sessions, which will be served under Strategi.

Please note the operative word here is “maximum”. It is possible to have several thousand users created under Strategi, but the number of those users who can connect simultaneously to your AS/400 will be limited to the number of Strategi licenses your organization has purchased from ADVANCED BusinessLink Corp.

While the number of Dynamic Threads available may be changed by the System Administrator, it can never be set to more than the number of simultaneous connections which your company is licensed for. If you find you have Strategi users complaining they receive a “no more sessions available” message, you may need to upgrade the number of licenses for your organization. Please contact your sales representative for more information.

HTTP MessagePath

The subdirectory where Strategi’s error message HTML pages are located. These pages have been designed to keep a consistent look-and-feel to your Strategi website.

HTTP TransmissionMax

Specifies the maximum packet size that the Strategi webserver will deliver. All zero’s means that no maximum is specified.

Login URL

Specifies the name of the file to use for login when using *CUSTOM authentication. This file will always be delivered *without* authentication, no matter what the authentication setting of the zone. If the file name is specified without an extension, then the file can have any extension.

ServerID

The ID assigned to the Strategi server. Please do not change this setting except at the request of BusinessLink Technical Support.

SSL SessionTimeout

Determines how long a Strategi 5250 session, connected under secure SSL, can sit idle before being timed-out by the Strategi subsystem. This is done so as not to leave an open, SSL-secured 5250 session sitting unprotected for great lengths of time, thus opening your AS/400 to unwanted attention from another casual user.

Threads

The number of “threads” (simultaneous Java-serving sessions) for which AS/400 system resources have been initially allocated. Additional resources will be allocated as required as the number of simultaneous Strategi connections increase, up to but not exceeding the maximum number of Dynamic Threads (simultaneous connections) your organization has been licensed for, as discussed above.

WebMasterAddress

Identifies the TCP/IP address and/or firewall port from/through which Strategi's Webmaster program (used for "checking in" and "checking out" the Strategi website) can connect. The default TCP/IP address is *ALL, which means Webmaster may connect back to the Strategi webserver from any TCP/IP address, and the default port is 43808. These may be set by the System Administrator as desired.

ClientCCSID

CCSID's are the standard OS/400 Coded Character Set Identifiers, which for most single-byte character sets are the same as the related Code Page.

ClientCCSID defaults to 819 (standard ISO 8859-1 as used in US and Western European versions of Microsoft Windows). This can be changed to support other codepages.

XAA Display Mode

Determines whether the Strategi 5250 emulation window displays initially in GUI mode or Green Screen ("Text") mode. This can be overridden by applet parameters within the HTML that loads the applet.

XAA Display Window

Retains information as to the user's Strategi 5250 emulation window's dimensions and position on the screen from the last time it was viewed by the user. This can be overridden by applet parameters within the HTML that loads the applet.

XAA Enter Key Action

Determines whether the keyboard **Enter** key will behave as an AS/400 **Enter** key or as a **FieldExit** key. This can be overridden by applet parameters within the HTML that loads the applet.

XAA Retrieve

Specifies behavior concerning whether file retrieval when in the Java emulation applet. The first value, "Auto Retrieve", specifies whether files will be automatically downloaded by the applet when they become available. The second, "Delete Without Retrieve", specifies whether a user can delete a file if they have not retrieved it. The third, "Autodelete keeping", specifies the maximum number of available files a user can have, which, if exceeded, will cause the older files to be deleted until this number is satisfied. This can be overridden by applet parameters within the HTML that loads the applet.

ClientCCSID

CCSID's are the standard OS/400 Coded Character Set Identifiers, which for most single-byte character sets are the same as the related Code Page.

ClientCCSID defaults to 00819, and can be changed to support other codepages.

HostCCSID

HostCCSID defaults to 37 (standard US EBCDIC), and can be changed to support other codepages, e.g., HostCCSID = 280 (for Italy).

Default Values

For reference, Strategi's configuration keywords are presented in the table below, along with their default values:

Group	Keyword	Description	Default Value
GUI	Menudetect	Menu Detection	Top Rows = 6 Bottom Rows = 0 Text = Select
	NoDotMenuItems	Generate "No Dot" Menu Items	0 = False
	UseHidden	Use Hidden Text for Buttons	0 = False
IDX	Connect#	Last Connection Number	None
	DeletedSite#	Deleted site Number	None
	HandleNBR	Last File Handle Number	None
	HSMReference	HSM Internal Reference Number	None
	Ref#	Last Transmission Reference #	None
	User#	Last User #	None
JVA	JavaDirDft	Java HSM Server Directory Default	/StrategiHSM
NAM	IFSRoot	Root Folder for all Strategi IFS Objects	STRATEGI
	ProductCode	Product Code	STRATEGI
	ProductName	Product Name	STRATEGI by ADVANCED BusinessLink
	Release	Product Release Version	TBD by ADVANCED BusinessLink Corp.
	SBSName	Subsystem Name	STRATEGI
OPR	AlertTMSQ	Alert Message Queue	QSYSOPR QSYS
	LogDiagnostics	Log Diagnostic Messages in Job Queue	0
	LogLevel	Logging	1
	LogMSGQ	Logging Message Queue	SGIMSGQ STRATEGI
PRT	HTMLFixedFontSize	Fixed Font Size for HTML Font Tag	00
	HTMLPageTable Height	Height Value for HTML Table Data Tag	0000
	PrintFormat	Print to Format	*RTF
	PrintWidthDetection	Print Width Detection	*OPTIMIZED
	RTFFontName	RTF Font Name	Courier New
	RTFFontSize	RTF Font Size	15
	RTFGoLandscape	RTF Go Landscape	80, 06

	RTFMargins	RTF Margins	0.5, 0.5, in
	RTFPaperSize	RTF Paper Size	2
	TopMarginLine Number	Top Margin Equivalent Skip-To Line	0003
SEC	ForceLogin	Alert Message Queue	0
	ForceLoginSSL	Logging	0
	IdleUserTimeout	Logging Message Queue	0060
VRT	DeviceNamePosition	Signon Screen Device Name	04, 070
	HTTPKeepAlive	HTTP Keep Alive Parameters	20, 05, 02
	Password	Signon Screen Password Field	07, 053
	Sessions	Maximum # of Virtual Sessions	00032
	SignonScreen1	Signon Screen Definition 1	01,036,Sign On
	SignonScreen2	Signon Screen Definition 2	06,017,User . . .
	SignonScreen3	Signon Screen Definition 3	07,017,Password . ..
	SignonScreen4	Signon Screen Definition 4	00000
	SignonScreen5	Signon Screen Definition 5	00000
	StrategiUser	Signon Screen User Info Field	09, 017, <AB>
	TerminalName	Virtual Terminal Name Prefix	QPADEV
	TerminalType	Virtual terminal Type	31792
	UsrPrf	Signon Screen User Profile Field	06, 053
WEB	DefaultURL	Default URL Filename	Homepage.htm
	DynamicThreads	HTTP # of Dynamic Threads	0024
	HTTPMessagePath	HTTP Message Path	/messages
	1111		
	ServerID	Web Server ID	Strategi HTTPD
	SSLSessionTimeout	SSL Session Timeout in Seconds	01800
	Threads	HTTP # of Initial Threads	0008
	WebMasterAddress	WebMaster TCP/IP Address	*All, 43808
XLT	ClientCCSID	Client CCSID	None
	HostCCSID	Host CCSID	None

Table 1, Strategi Default Values

Chapter 4 – Creating Strategiq Users

From the Strategiq Main Menu, selecting option # 1, “Work with Strategiq Users”, presents the following screen:

```
Work with STRATEGIQ Users
Position to . . . _____ Starting character(s) of Access Name
Subset by Class . *ALL *ALL, INT, EXT, ADM
Subset by Status. *ALL *ALL, *ENABLED, *DISABLED,
                  *PENDING, *CERTWAIT
Type options, press Enter.
2=Change 4=Delete 5=Display 8=User Attributes 9=Available Files
10=Connections 11=Enable 12=Disable 13=Certificate Wait

  Access Name                               Number Class Status
  ────────────                               ──── ──── ────
█ ALEX PURINS                               32  EXT  *ENABLED
  AMY KORNIK                                27  EXT  *ENABLED
  BRETT TIMMINS                              15  EXT  *ENABLED
  CHRIS LATEGAN                              19  EXT  *ENABLED
  CHRISTINA DUGDALE                          30  EXT  *ENABLED
  COLIN MOORE                                11  EXT  *ENABLED
  GREG HOWARD                                 14  EXT  *ENABLED
  HARALD HUGUS                                29  EXT  *ENABLED
  HARRY MORITZ                                10  EXT  *ENABLED
  JOHN NOBLE                                  21  EXT  *ENABLED
More...

F3=Exit F5=Refresh F6=Create F11=Alternate View F12=Cancel
```

Figure 10, Work with Strategiq Users

Creating Your First Strategiq User

A Strategiq user needs to be defined on the AS/400, being allocated a user registration number and granted access, before they can connect through Strategiq. No additional software is loaded into the user’s computer, as the Java applet is downloaded to their computer and run directly from it whenever they access your Strategiq website.

To establish a Strategiq user registration, follow the steps outlined below:

1. Sign on to the AS/400, with QSECOFR or equivalent authority.
2. Access the Strategiq system menu, using the command **GO STRATEGIQ/SGI**.
3. Select menu item # 1, “Work with Strategiq Users”.
4. Press **F6** to create a Strategiq user, which displays the screen below:

```

Create Strategi User (CRTSGIUSR)
Type choices, press Enter.
Access Name . . . . . █ _____
Passphrase . . . . . *NAME_____
Passphrase Expiry . . . . . *NO____ *YES, *NO, *NEVER
Email Address . . . . . _____
First Name . . . . . _____
Last Name . . . . . _____
Title . . . . . _____
Organization . . . . . _____
Class . . . . . *EXTERNAL *EXTERNAL, *INTERNAL, *ADMIN
Status . . . . . *ENABLED_ *PENDING, *ENABLED...
Bottom
F3=Exit F4=Prompt F5=Refresh F10=Additional parameters F12=Cancel
F13=How to use this display F24=More keys

```

Figure 11, Create Strategi User

Pressing **F10** for additional parameters then **Page Down** displays the next screen:

```

Change Strategi User (CHGSGIUSR)
Type choices, press Enter.

Additional Parameters
Allow 5250 Emulation . . . . . ALNEMU *SAME
Emulation: EMU
Host User Name . . . . . *SAME_____
Host Password . . . . . *SAME_____
Required Device Name . . . . . *SAME_____
Idle Timeout . . . . . *SAME_____
Allow Spool File Transfer . . . ALNSPOOL *SAME
Allow File Cabinet Access . . . ALNFILE *SAME
Allow High Speed Messaging . . . ALNWSM *SAME
SSL Minimum Key Length . . . . SSLRQD *SAME_____
Client Certificate Required . . CTFRQD *SAME

```

Figure 12, Create Strategi User, Continued

Pressing **Page Down** displays the next screen:

```

Change Strategi User (CHGSGIUSR)
Type choices, press Enter.

TCP/IP Address Filtering: IPADD
Address . . . . . *SAME_____
Subnet . . . . . *SAME_____
Account Expiration: EXPIRY
Expiry Rule . . . . . *SAME_____
Expiry Day Count . . . . . *SAME_____

```

Figure 13, Create Strategi User, Continued

5. Enter the Access Name. This is the name the user types in to login to Strategi via authenticated HTTP, or with the Strategi applet, if an unauthenticated site is used for access. The name may be changed any time after creation, but must remain unique; two users cannot have the same Access Name. This field is forced, and

must be filled in. Note: The access name is forced to uppercase for storage and comparison, and may contain spaces and other punctuation.

6. Enter the Passphrase. The “Passphrase” is much more secure than a “password”; whereas a pass “word” is only one word, the pass “phrase” can be much longer (30 to 40 characters is recommended, up to 50), and can include both spaces and punctuation. In other words, the passphrase can be a complete sentence such as “I try to think of things in a positive light.” The Passphrase is not case-sensitive.
7. Set the user’s Passphrase Expiry. This determines whether the user is required to change their passphrase immediately upon their first sign on, and subsequently according to the passphrase expiry rules defined in the Strategi System Values. Possible values are:

Value	Description
*YES	The passphrase is set to “expired”. The user is required to change the passphrase after the next login, and subsequently according to the Strategi System Values.
*NO	The passphrase is not set to “expired”. The user is required to change their passphrase according to the Strategi System Values.
*NEVER	The passphrase is set not to expired. The user is not required to periodically change their passphrase; Strategi System Values regarding passphrase expiry are ignored.

Table 2, Passphrase Expiry

8. Fill in the user’s email address, if desired. Most email systems are not case-sensitive for their addressing; for Internet email, using all lowercase is the generally preferred standard. The address is usually an Internet email address in the form of “name@domain. (For information only).
9. Fill in the first name, properly formatted (including case). (Information only).
10. Fill in the last name, properly formatted (including case). (For information only).
11. Fill in the user’s title. (For information only).
12. Fill in the user’s organization. (For information only).
13. Select the user’s “class”. This allows Strategi to display and work with users based on their function within the context of Strategi. Possible values are:

Value	Description
*ADMIN	The user is a Strategi administrator.
*INTERNAL	The user is an internal (intranet) Strategi user.
*EXTERNAL	The user is an external (Internet) Strategi user.

Table 3, Strategi User Classes

14. Select the status of the user's account. The system may disable a user according to the rules defined in the Strategi System Values, and additionally according to the individual account rules as set by the EXPIRY parameter. An account disabled by the system will show the status ***AUTODISABLED** in the "Work with" and the "User account" display screens. Possible values are:

Value	Description
*PENDING	The account is pending approval. A suitably qualified administrator needs to inspect the account and enable it. This status is generally set by automated user registration tools (such as could be done via a webpage). This status is also automatically set after a user has had their digital certificate data stored. The user is not permitted to login.
*ENABLED	The account is enabled. The user is permitted to login.
*DISABLED	The account is disabled. The user is not permitted to login.
*CERTWAIT	The account is waiting to capture the user's digital certificate. The user must connect to a digitally authenticated site and Strategi will capture and store the user's personal certificate identification fields. The account ID is then automatically set to *PENDING.

Table 4, Strategi User Account Status

15. Select whether the user is allowed access to 5250 terminal emulation.
16. The next four items determine the user's emulation requirements:
- a. Host User Name: This is an optional AS/400 user profile. If set, the user is forced to sign on using that profile and cannot use any other. A setting of ***MUSTKEY** means the user must key in any valid profile; no specific profile is forced.
 - b. Host Password: This is an optional AS/400 password. If a password is specified with a user profile, then the user is automatically signed on to the AS/400 without ever seeing a sign on screen. When they signoff, the emulation is automatically ended. This field has no effect if the Host User Name parameter is left at ***MUSTKEY**. A setting of ***MUSTKEY** means the user must key in the password corresponding to the Host User Name selected above.
 - c. Required Device Name: Allows the device name, under which the emulation is to be run, to be specified. This feature is only available on AS/400 systems running V4R2M0 or better (although IBM may be able to supply PTF's for earlier OS versions, please contact IBM for availability). Specifying a device name on a system earlier than V4R2M0 will cause the user's emulation to fail initialization. The device is auto-created if it does

not already exist. A setting of ***ANY** means the device is selected automatically.

- d. Idle Timeout: The length of time a user can be idle while using emulation before the emulation session is automatically ended. This is generally used to prevent users from tying up emulation sessions for prolonged periods of time when they are not really using them. The timeout is specified as HHMM, where HH=Hours and MM=Minutes.
17. Select whether the user is allowed to transfer spool files using the **SNDSGIF** command.
 18. Select whether the user is allowed to transfer data files using the **SNDSGIF** command.
 19. Select whether the user is allowed to run HSM applications.
 20. SSL Minimum Key Length: This indicates the minimum key length a user must have in order to connect to an authenticated website, and therefore, to use any resource available on the site.

NOTE: International customers are required to have explicit exemption in writing from the US Department of Commerce, in order to receive software written in the US that enables cryptography of greater strength than RSA RC4-40 for communications. Therefore, international users of Strategi will not be able to utilize user settings requiring greater than 40-bit encryption without this special written permission. Possible values are:

Value	Description
40	Minimum encryption key length of 40-bits required (US Export Allowed)
56	Minimum encryption key length of 56-bits required (US Export Restricted)
128	Minimum encryption key length of 128-bits required (US Export Restricted)
*NONE	SSL is not required for this user.

Table 5, SSL Key Lengths

21. Client Certificate Required: Indicates whether the user must connect to a digitally authenticated website and present a valid personal certificate in order to log in.
22. TCP/IP Address Filtering: This allows you to select if certain criteria must be met concerning the TCP/IP address from which the user connects. The address and subnet work together, with the subnet indicating how much of the address is to be checked. If present, this indicates the IP address the user is required to connect from to be permitted to connect, (listed in the standard Internet format, xxx.xxx.xxx.xxx).

For example, if you want the user to connect from work but not from home, you can insert their work IP address here. Note: for this to function, the work IP

address must be “static”. Certain Internet Service Providers assign IP addresses “on the fly” from an open pool; for this restriction to work, the user’s work computer must have a specific, dedicated IP address that does not change.

If you select ***ANY**, the user can connect from any TCP/IP address. If the user’s work IP address is assigned on the fly (as described above), then you would use this setting.

23. Subnet: The subnet indicates how much of the IP address is to be checked when validating the origin address for the user. This is in standard xxx.xxx.xxx.xxx format. If set to ***NONE**, then no subnet is considered, and the user can only connect from the exact IP address specified. Examples:

Address	Subnet	Description
10.0.0.0	255.0.0.0	User can connect only from an internal LAN (all “10.xxx.xxx.xxx” IP addresses are always on internal LANs).
123.456.789.0	255.255.255.0	User can connect only from the network 123.456.789.xxx. Because the first three positions in the subnet mask are selected (“255.255.255”), the user can connect from any computer at an IP address beginning with “123.456.789”.
1.2.3.4	*NONE	User can connect only from the specific TCP/IP address 1.2.3.4

Table 6, Subnet Mask Examples

24. Account Expiration: The criteria for expiring a user account. When the criteria are met, the user account will be set to ***AUTODISABLED** (though the change user command will convert this to ***DISABLED** when prompted).

- a. Expiry Rule: Determines if and when the account is to be expired. Possible values are:

Value	Description
*NEVER	The account will not be automatically expired.
*ELAPSED	The expiration date is calculated as days since creation.
*UNUSED	The expiration date is calculated as days since last login.

Table 7, Account Expiry Rules

- b. Expiry Day Count: Select the number of days to elapse when applying the expiry rule. You may select between 001 – 365 days.

25. Press **Enter** to generate a new record, which will now be visible when working with Strategi users.

26. Make a note of the registration number for the new Strategii user. You will note an *OUTQ called Snnnnnnn has been generated in the Strategii library, where “nnnnnnn” refers to the user registration number (left-padded with zeroes). For example, if the new registration number is 5, the *OUTQ will be named S0000005.
27. Change the *OUTQ of the AS/400 profile associated with this Strategii registration to this new *OUTQ (i.e. SGI/S0000005). A good way to test this would be through a subsystem routing entry, using the system sign on job as the profile sign on job.

The AS/400 administrative process is now complete.

Identification of Strategii Users on the AS/400

In many cases, such as the assignment of print outqueues, it will be necessary for the AS/400 to know what Strategii user someone is signed in as. The user identification information can be passed to the AS/400 startup job whenever a Strategii user signs on to the AS/400. This is done using a specifically modified sign on screen, which includes fields to accept Strategii-related input, and few Strategii configuration entries. The process is:

1. When the user logs in through Strategii, Strategii will place the user type, number, and Strategii library (which, in this document, we will assume to be STRATEGII) name in these sign on screen fields.
2. The AS/400 sign on CL (set for the AS/400 user profile) or job initiation program (set in the subsystem description for the subsystem supplying the sign on screens) calls a BusinessLink command to retrieve the user information.
3. The **RTVSGISSNI** command creates a data area in QTEMP containing the information, which is then available for the rest of the job.

Setup Details

1. Modify the sign on screen to add the user information field. The information field may be placed anywhere on the screen, and must be 28 bytes long, hidden, protected and flagged as MDT-set. This field must be hidden, so the users never see it. The field must be flagged with a MDT (modified data tag), so the field is treated as “changed”, and the data found therein always returned to the AS/400. Refer to **STRATEGII/SGIEXAMPLE (QDSIGNON)** for a standard sign on screen modified example.
2. Assign the modified sign on screen to the subsystem which supplies the virtual devices used for Strategii sign on, using the command “**CHGSBSD**”, keyword “**SGNDSPP**”. This subsystem will need to be restarted to make the new sign on screen active. Note: If you use this opportunity to redesign the sign on screen, the new sign on screen will be unrecognizable to Strategii until the configuration is updated.

3. Configure the user information field location in the Strategi configuration, at Keyword "STRATEGIUSER", in group "VRT", then restart Strategi. Reconnect with Strategi after restarting, ensuring the sign on screen definition is functioning correctly.
4. Optionally, you may create a new user profile, SGIDFTOWN, with password ***NONE** and status ***DISABLED**. This user profile's sole purpose is to protect the data area created in QTEMP in step # 5 below, so later programs or users cannot modify it, thus impersonating another registered user. It is not used for any jobs, interactive or batch. This protection is achieved by changing the owner of the *DTAARA to SGIDFTOWN, and revoking the user's authority to the object to prevent the contents of the DTAARA being modified or the DTAARA being removed after the user has signed on. This means, then, that the DTAARA area can be continually accessed to identify the user by applications throughout the job and the information it contains trusted, from a security point of view. If used in the sign on program, this command may fail if certain messages, such as "User *OUTQ is invalid," are sent by the system.
5. Modify either the user(s) sign on program or the subsystem job initiation program to call **RTVSGISSNI**.

If security is required, the sign on job must be placed at the top of the library list, and the **RTVSGISSNI** command called specifically from the STRATEGI library and not from the library list. Refer to STRATEGI/SGIEXAMPLE(SYSSGNON) and (SYSSGNON2) for a working example of this, using the user's sign on program.

If a sign on program is used, it is preferable to assign all users the same sign on program, and have this branch to a separate user specific job, if such a job has been set up.

Strategi Groups

Strategi allows you to create collections of users called Strategi Groups. Most Strategi commands which require that a Strategi User be specified can instead have a Strategi Group specified. This makes tasks like sending the same file to many users, or securing websites in relation to many users, much simpler.

Strategi Groups can contain users, and they can also contain other Groups. However, recursion (eg, Strategi Group A contains Group B which contains A), is inherently prevented by the Group creation (CRTSGIGRP) and change (CHGSGIGRP) commands.

Chapter 5 – Using Stragegi’s Features on the AS/400

In this chapter we will discuss the most commonly used Stragegi functions:

- Sending files
- Working with user connection information
- Working with your Stragegi website

Send Stragegi File

Selecting option # 2, “Send Stragegi File”, from the Stragegi Main Menu displays the screen below:

```
Send Stragegi File (SND5GIF)
Type choices, press Enter.
User number . . . . . : _____ Number
From format . . . . . : *DB2400 *SPOOL, *IFS, *DB2400...
```

Figure 14, Send Stragegi File

Enables AS/400 files to be sent directly to an individual user.

Keywords

User Number

Selects the Stragegi user number, assigned by the Stragegi system when you created the user, that you wish to send the file to.

From Format

This selects the type of file being sent. Possible values are:

Value	Description
*DB2400	An AS/400 DB2 database file member with field processing (dependent on the TOFMT).
*DB2400BIN	An AS/400 DB2 database file member treated as a continuous stream of binary data.
*IFS	A file in the AS/400 Integrated File System treated as a continuous stream of binary data.
*SPOOL	An AS/400 spoolfile. Spool files will be converted from EBCDIC to ASCII before sending.

Table 8, From Format File Types

Work With Connections

Selecting option # 3, “Work With Connections”, displays the screen displayed below:

```

Work With Connections
Date. . . . . *ALL__   MMDDYY *ALL, *TODAY
User. . . . . *ALL__   *ALL, F4=List
Last/Current State. *ONLINE__ *ALL, *ONLINE, *OFFLINE, *ERROR, *TIMEOUT

Type options, press Enter.
5=Display

   User                               Date/Time In  Date/Time Out  State
█ SCOTT MCBURNEY                      09Jul99 15:49          *ONLINE
    
```

Figure 15, Work With Connections

Pressing **F11** displays an alternate view:

```

Work With Connections
Date. . . . . *ALL__   MMDDYY *ALL, *TODAY
User. . . . . *ALL__   *ALL, F4=List
Last/Current State. *ONLINE__ *ALL, *ONLINE, *OFFLINE, *ERROR, *TIMEOUT

Type options, press Enter.
5=Display

   Date/Time In  User # Device  Host User          State
█ 09Jul99 15:49    743          WEBSGI             *ONLINE
    
```

Figure 16, Work With Connections, Alternate View

“Work With Connections” is a tool to monitor Strateg-i system use. It lets you see not only who is currently connected, but also examine the history of those who have previously connected.

“Date” allows you to filter by the date the user made the current (or last) connection, and allows you to filter by all dates, today’s date or by a different specific date.

“User” allows you to filter by a particular username.

“Last/Current State” allows you to filter by the following criteria:

Value	Description
*ALL	All the states listed below.
*ONLINE	Users currently online (default view).
*OFFLINE	Users currently offline who exited the Strateg-i system normally.

*ERROR	Users currently offline who were exited due to an error.
*TIMEOUT	Users currently offline who were timed out due to inactivity.

Table 9, Work With Connections

While the previous Figure illustrated ***ONLINE**, the following figure is an example of viewing connections with a Last/Current State of ***ALL**:

```

Work With Connections
Date . . . . . *ALL__   MMDDYY *ALL, *TODAY
User . . . . . *ALL__   *ALL, F4=List
Last/Current State. *ALL__ *ALL, *ONLINE, *OFFLINE, *ERROR, *TIMEOUT

Type options, press Enter.
5=Display

  User                Date/Time In  Date/Time Out  State
  ─────────────────── ──────────── ──────────── ────
  █ SCOTT MCBURNEY    09Jul99 15:49          *ONLINE
  ─ JOHN              09Jul99 12:39  09Jul99 13:13 *ERROR
  ─ JOSEPH            09Jul99 12:02  09Jul99 12:07 *OFFLINE
  ─ BARRY             09Jul99 11:47  09Jul99 12:54 *OFFLINE
  ─ CHRIS             09Jul99 11:39  09Jul99 11:46 *OFFLINE
  ─ BARRY             09Jul99 11:20  09Jul99 11:33 *OFFLINE
  ─ VMC10HISDE        09Jul99 11:14  09Jul99 11:14 *OFFLINE
  ─ JOSEPH            09Jul99 11:13  09Jul99 11:28 *OFFLINE
  ─ VMC10HISDE        09Jul99 11:06  09Jul99 11:10 *OFFLINE
  ─ BARRY             09Jul99 10:27  09Jul99 10:54 *OFFLINE
  ─ JOHN              09Jul99 10:20  09Jul99 10:22 *OFFLINE
  More...

```

Figure 17, Work With Connections, *ALL

Typing in a “5” next to any entry displays the history of that contact, as in the following example:

```

Display Strategi Connection Details
Connection Reference . . : 0000003642
User Number . . . . . : 000000002
User Name . . . . . : CHRIS
Login Result . . . . . : *ACCEPTED
Current Status . . . . . : *OFFLINE
Date/Time In . . . . . : 09 JUL 1999 11:39:58
Date/Time Out . . . . . : 09 JUL 1999 11:46:20
Host User Name . . . . . : WEBSGI
Host Device Name . . . . :
Client Type . . . . . : *JAVA
Client Version . . . . . : 405
Client IP Address . . . . : 206.19.206.206
Security . . . . . : *NONSSL
SSL Info . . . . . : RSA RC4-40
Certificate Info . . . . . : No client certificate

```

Figure 18, Work With Connections, Details

Strategi License Use

Strategi systems are licensed by either the number of concurrent users on the system, or the number of registered users. It is important therefore to understand what constitutes a license use in either sense.

License by Concurrent Users

For systems that are licensed by concurrent users, a Strategi user accessing Strategi from a single computer constitutes the use of a license. This user can be logged into any number of services (for instance, several sessions of the Strategi emulation applet, Strategi Webmaster, and/or website zones), but if they are logged in as the same Strategi user, they will only count for one concurrent license use.

In the case where the number of licensed uses are exceeded, a fourteen day grace period will begin which will allow for fifty percent more concurrent license usage. Once the fourteen days is over, the system will return to its original license size.

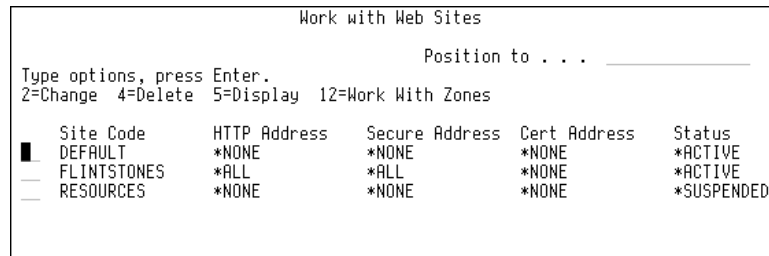
License by Registered Users

For systems that are licensed by registered users, each Strategi user created counts for one license use.

In the case where the number of users created exceeds the licensed amount, a fourteen day grace period begins which allows for up to fifty percent more users to be created. Once the fourteen days is over, the license size returns to the original amount. If the licensed number of users are signed into the system and another user attempts to log in, that user will be disabled. Any users that are disabled will not be able to be enabled again until enough users are deleted that the total number registered is below the licensed amount again.

Work With Websites

Selecting option # 5, "Work With Websites", from the Strategi Main Menu brings up a screen similar to the one displayed below (please note that "Flintstones" is a demo site only, and is not included with your Strategi webserver):



```
Work with Web Sites
Position to . . . _____
Type options, press Enter.
2=Change 4=Delete 5=Display 12=Work With Zones
Site Code      HTTP Address  Secure Address  Cert Address  Status
█ DEFAULT      *NONE        *NONE          *NONE        *ACTIVE
- FLINTSTONES  *ALL         *ALL           *NONE        *ACTIVE
- RESOURCES    *NONE        *NONE          *NONE        *SUSPENDED
```

Figure 19, Work with Websites

Pressing **F11** displays an alternate view:

```

Work with Web Sites
Position to . . . _____
Type options, press Enter.
2=Change 4=Delete 5=Display 12=Work With Zones

Site Code      HTTP  Sec  Cert  Description
█  DEFAULT      80   443  444  Default Install Website
  FLINTSTONES  80   443  443  Flintstones Website
  RESOURCES    80   443  443  Strategi Resources

```

Figure 20, Work with Websites, Alternate View

Entering “2” by a website and pressing **Enter** displays the screen below:

```

Change Web Site (CHGSGIWEB)
Type choices, press Enter.
Site Name . . . . . > DEFAULT      Name
Text Description . . . . . █Default_Install_Website'
-----
Status . . . . . *ACTIVE__ *SAME, *SUSPENDED, *ACTIVE
TCP/IP Address:
  HTTP . . . . . *NONE_____
  Secure HTTP . . . . . *NONE_____
  Certificate HTTP . . . . . *NONE_____

Additional Parameters

TCP/IP Port:
  HTTP . . . . . 80_____ nnnnn, *SAME
  Secure HTTP . . . . . 443_____ nnnnn, *SAME
  Certificate HTTP . . . . . 444_____ nnnnn, *SAME

```

Figure 21, Work with Websites, Details

The Strategi system will normally come with only one website (DEFAULT) in place, with the status set to ***ACTIVE**. If you plan to have any security in place for your website(s), you may want to change DEFAULT’s status from ***ACTIVE** to ***SUSPENDED** and create additional websites, so that accesses to your website are forced to comply with the access requirements you implement.

With the Strategi system, you may have multiple websites, each with their own level of security, but can only have one level of security access (and one IP address) for each website. Each website must have its own individual IP address (and, if desired, an associated domain name) on the AS/400.

Sites may specify individual security requirements, including minimum SSL key length.

SSL-secured sites allow industry strength RC4 encryption to be used in Strategi, at whatever key strength the browser is connected through to the web server.

The additional ***ACTIVE** sites displayed in the screen displays above have been created to demonstrate how to implement different levels of security. Please note that site names are arbitrary, and may be named whatever you wish. A description of each parameter follows, and their use in the individual website examples will be described in the paragraphs below.

Keywords

Site

The name of the website. This name corresponds to the directory tree in the AS/400's IFS containing the website documents, SSL certificate information, etc.

Description

The description of the website. Websites may be set to require HTTP 1.0 Basic login (use of the basic login is acceptable, because site must be SSL-secured). This is used for authenticated sites when prompting for the username and password; it is displayed by the browser in the authentication dialog and should accurately describe the website to the Internet user. The only possible special values available are ***SITENAME**, where the site name (described above) is used for the description, and ***SAME**, where the description is not changed.

For websites requiring the use of the HTTP 1.0 Basic login, Stragegi provides a highly efficient session caching, resulting in a dramatic improvement in HTTPS performance over the capabilities of other web-serving products.

IP Addressing

The TCP/IP addresses of the network interface to be used by this website. A separate address may be specified for each of the 3 different HTTP services. If the same address is used for 2 or more HTTP services, then you must specify a unique port for those services (see "HTTP", "Sec" and "Cert", below). This address is in standard Internet format (xxx.xxx.xxx.xxx).

Note: Using ***ALL** will cause a conflict if any other software is attempting to listen for connections on the standard HTTP ports (80 and 443) or on the Stragegi Java applet port (43856). Also, if ***ALL** is used then only 1 website should be configured; any other websites would, by definition, be in conflict with the site configured for ***ALL**. The possible special values are:

Value	Description
*ALL	All addresses defined on the AS/400 are used.
*HTTP	The address specified for HTTP is used.
*NONE	The service is not to be provided for this website.
*SAME	The current value is not changed.

Table 10, IP Addressing

HTTP Address

The IP address assigned to the website. Note: settings for the website "RESOURCES" must *not* be modified.

Secure HTTP

The IP address to be used when connecting to the website via SSL-secured encryption. Note: settings for the website “RESOURCES” must not be modified.

Certificate HTTP

The IP address to be used when connecting to the website via SSL-secured encryption with a digital certificate. Specifying an IP address here requires a digital certificate (from a provider such as Verisign, Inc.) be installed in the user’s web browser. If this is set, the webserver will capture the digital certificate information upon the user’s first login. Note: settings for the website “RESOURCES” must not be modified.

Status

The status of the website. This allows you to temporarily suspend a website without having to remove its definitions or IFS file structure. The possible special values are:

Value	Description
*ACTIVE	The website is active and will be served.
*SUSPENDED	The website is temporarily suspended.
*SAME	The current value is not changed.

Table 11, Work With Website Status

TCP/IP Port

Determines the TCP/IP ports that are to be used for the 3 types of HTTP services. The industry standard for normal HTTP is 80, for Secure and Certificate HTTP is it 443. The possible values are the actual TCP/IP port number and ***SAME**, where the current value is not changed.

HTTP

The IP address assigned to the website.

Secure HTTP

The IP address to be used when connecting to the website via SSL-secured encryption.

Certificate HTTP

The port number to be used in connecting to the website via SSL-secured encryption with a digital certificate.

Website Settings Examples

Please note the websites discussed below (DEMO, DEMOAUTH, etc.) were created by ADVANCED BusinessLink Corp. solely as examples of the different types of websites, settings and security levels you can implement, and are not meant to limit you in naming or configuring your own websites:

DEMO

This is an example of a basic website:

Setting	Value
Site	DEMO
Status	*ACTIVE
Group Site	*NONE
Description	BusinessLink Demo
TCP/IP Address	xxx.xxx.xxx.xxx
Security Requirement	*NONE
SSL Minimum Key	N/A

Accessing this website, does not require any security login, nor does it require any level of SSL security in the web browser.

DEMOAUTH

This is an example of a website requiring authentication to access the webpages and a browser capable of at least 40-bit security.

Setting	Value
Site	DEMOAUTH
Status	*ACTIVE
Group Site	DEMO
Description	BusinessLink Demo (Authenticated)
TCP/IP Address	xxx.xxx.xxx.xxx
Security Requirement	*LOGIN
SSL Minimum Key	40 bit

Authentication is provided by means of a password which must be supplied upon logging in to the site. The web browser must be capable of at least 40-bit security, which will usually include both domestic and international versions of most web browsers currently available. As a reminder, ADVANCED BusinessLink Corp. only supports the major web browsers: Microsoft's Internet Explorer and Netscape's Navigator/Communicator products.

DEMOAUTHCERT

Setting	Value
Site	DEMOAUTHCERT
Status	*ACTIVE
Group Site	DEMO
Description	BusinessLink Demo (Digital Certificate)
TCP/IP Address	xxx.xxx.xxx.xxx
Security Requirement	*CERTLOGIN
SSL Minimum Key	40 bit

Authentication is provided by means of a Digital Certificate and the web browser must be capable of at least 40-bit security. The website must have a Digital Certificate, issued by a granting authority such as Verisign, Inc.

DEMOSECURE

Setting	Value
Site	DEMOSECURE
Status	*ACTIVE
Group Site	DEMO
Description	BusinessLink Demo (Secure)
TCP/IP Address	xxx.xxx.xxx.xxx
Security Requirement	*ENCRYPT
SSL Minimum Key	40 bit

Authentication is provided by means of Digital Certificate and the web browser must be capable of at least 40-bit security. The website must have a Digital Certificate, issued by a granting authority such as Verisign, Inc.

DEMOSECURE128

Setting	Value
Site	DEMOSECURE128
Status	*ACTIVE
Group Site	DEMO
Description	BusinessLink Demo (Secure 128 bit)
TCP/IP Address	xxx.xxx.xxx.xxx
Security Requirement	*ENCRYPT
SSL Minimum Key	128 bit

Authentication is provided by means of Digital Certificate and the web browser must be capable of at least 128-bit security, which limits access to domestic-only, high-security versions of the web browser. The website must have a Digital Certificate, issued by a granting authority such as Verisign, Inc.

Product Download

The product download feature of Strategi allows customers with AS/400s that are connected to the Internet to download and upgrade their existing Strategi software package. This feature requires that the existing version is at least V1R5M4. The command to perform this function is called RTVPRDSGI. Parameter descriptions and usage are as follows:

Parameters:

PRODUCT

The product to retrieve (defaults to STRATEGI)

RELEASE

The release to retrieve. Possible values are ***CURRENT**, ***BETA**, or a version number. Note: ***BETA** should only be used after first consulting BusinessLink Technical Services.

SAVF

The save file name and library to receive the downloaded product.

INSTALL

Specifies whether to install the product after download. Possible values are: ***YES** - the Strategi installation/upgrade command will be prompted once the retrieve has completed; ***NO** - the product will be retrieve and stored in the save file specified and the installation/upgrade command will not be prompted.

AUTHEN

Authentication information to use. This is broken up into “Access Name”, “Passphrase”, and “Website for Digital Cert”. Note: This information will be provided by BusinessLink Technical Services.

CTFMATCH

Specifies whether the server certificate must match the website. Possible values are: ***YES** and ***NO**. Note: ***YES** should always be specified unless advised by BusinessLink Technical Services.

Copy Save File

The command CPYSVFSGI will copy an existing save file to a user defined location on the IFS.

Parameters

FROMFILE

The name of the save file (standard naming - ie MYLIB/MYSAVF)

TOFILE

The location and name of file when copied to IFS (/ naming)

Chapter 6 – Command Line Functions

Following is a complete list of command-line commands available in Strategi, along with a brief description of their function. Following this list is an explanation of Strategi Attributes and Web Site Zones.

AS/400 online help (using the F1 key) is available for each of these commands, so they will not be detailed within the contents of this manual. If you have any questions about these commands, please contact ADVANCED BusinessLink Corp.'s Technical Support Dept. at the locations as listed in Appendix 1:

Command	Description
ACNSGIUSRL	Action User List
ADDH SMAUT	Add HSM Authority
ADDSGICLSP	Add Strategi Class Path to CLASSPATH environment variable
ADDSGIGRPM	Add Group Member
ADDSGIUSRA	Add User Attribute
ADDSGIZNA	Add Zone Authority
CHGH SMAUT	Change HSM Authority
CHGH SMINS	Change HSM Server Instances
CHGH SMSVR	Change HSM Server
CHGSGIALS	Change Website Alias
CHGSGIFD	Change File Description
CHGSGIGRP	Change Group
CHGSGIPWD	Change Password
CHGSGIUSR	Change User
CHGSGIUSRA	Change User Attribute
CHGSGIVAL	Change Strategi Value
CHGSGIWEB	Change Website
CHGSGIZNA	Change Zone Authority
CHGSGIZON	Change Zone
CHKSGIGRPM	Check Group Member
CHKSGIUSR	Check User Access
CLRHSMPFR	Clear HSM Performance Data
CPYSGIGRP	Copy Group
CPYSVFSGI	Copy Save-File Utility For Strategi
CPYURLSGI	Copy URL to Website
CRTHSMCLS	Create HSM Server Class from Source Member
CRTHSMSVR	Create HSM Server
CRTSGIA	Create Attribute Definition
CRTSGIALS	Create Website Alias
CRTSGIGRP	Create Group
CRTSGIUSR	Create User

CRTSGIWEB	Create Website
CRTSGIZON	Create Zone
CVTABLSGI	Convert BusinessLink users to Strategi
CVTDBFSGI	Convert Database File to PC Format
DLTHSMSVR	Delete HSM Server
DLTSGIA	Delete Attribute Definition
DLTSGIALS	Delete Website Alias
DLTSGIF	Delete Sent File
DLTSGIGRP	Delete Group
DLTSGIUSR	Delete User
DLTSGIWEB	Delete Website
DLTSGIZON	Delete Zone
DSPHSMAUT	Display HSM Authority
DSPHSM PFR	Display HSM Performance Data
DSPHMSVR	Display HSM Server
DSPSGIALS	Display Website Alias
DSPSGICNN	Display Connection
DSPSGIFD	Display File Description
DSPSGIGRP	Display Group
DSPSGIGRPM	Display Group Member
DSPSGIUSR	Display User
DSPSGIUSRA	Display User Attribute
DSPSGIVAL	Display Strategi Value
DSPSGIWEB	Display Website
DSPSGIZNA	Display Zone Authority
DSPSGIZON	Display Zone
ENDHMSVR	End HSM Server
ENDSGI	End Strategi Subsystem
ENDSGIVTS	End VT Server
EXPSGIGRP	Explode Group
GENSGISSL	Generate SSL Data
INSHMSVR	Install Packaged HSM Server
PKGHSMSVR	Package HSM Server for Distribution
RMVHSMAUT	Remove HSM Authority
RMVHSM PFR	Remove HSM Performance Data
RMVIFSTREE	Remove IFS Tree
RMVSGIGRPM	Remove Group Member
RMVSGIUSRA	Remove User Attribute
RMVSGIZNA	Remove Zone Authority
RNMSGIGRP	Rename Group
RQSHTPSGI	HTTP Request Utility For Strategi
RTVHSMAUT	Retrieve HSM Authority
RTVHSM PFR	Retrieve HSM Performance Data
RTVHSMSVR	Retrieve HSM Server

RTVSGIA	Retrieve Attribute Definition
RTVSGIALS	Retrieve Website Alias
RTVSGICNN	Retrieve Connection Information
RTVSGIFD	Retrieve File Description
RTVSGIGRP	Retrieve Group
RTVSGISSNI	Retrieve Session Information
RTVSGIUSR	Retrieve User
RTVSGIUSRA	Retrieve User Attribute
RTVSGIUSRN	Retrieve User Number
RTVSGIVAL	Retrieve Strategi Value
RTVSGIWEB	Retrieve Website
RTVSGIZNA	Retrieve Zone Authority
RTVSGIZON	Retrieve Zone
SETSGILIC	Set Strategi License
SETSGIUSRA	Set User Attribute
SLTSGIGRP	Select Group
SLTSGIUSR	Select Strategi User
SNDRCVHSM	Request HSM Service
SNDSGIF	Send File
SNDSGISMTP	Send Internet Email
STRHSMSVR	Start HSM Server
STRSGI	Start Strategi Subsystem
STRSGIVTS	Start VT Server
WRKHSMAUT	Work with HSM Authorities
WRKHSM PFR	Work with HSM Performance Data
WRKHSM SVR	Work with HSM Servers
WRKSGIA	Work with Attribute Definitions
WRKSGIALS	Work with Alias Definitions
WRKSGICNN	Work with Connections
WRKSGIGRP	Work with User Groups
WRKSGIGRPM	Work with Group Members
WRKSGIUSR	Work with Users
WRKSGIUSRA	Work with User Attributes
WRKSGIVAL	Work with Strategi Values
WRKSGIWEB	Work with Websites
WRKSGIZNA	Work With Zone Authorities
WRKSGIZON	Work With Zones

Table 12, Command Line Functions

Strategi Attributes

A number of Strategi's command line functions deal with Strategi's user and system attributes.

Commands for working with Strategi attributes are designed to retrieve one or more of the values that are stored and associated with that Strategi attribute. The values are returned in the specific variables supplied in each parameter. The CL prompt for this command lists the minimum length for the variables next to the appropriate parameters you want to retrieve. For character variables, a single number is shown. For decimal variables, two numbers are shown. The first number indicates the minimum variable length and the second number indicates the minimum number of decimal positions.

Attributes

Attributes are used in various places within Strategi. An attribute "belongs" to an entity, such as a user, and may be added to that entity as required. If the attribute is not added, no storage for the attribute is used within the entity.

The attribute *value* is stored each for each entity when the attribute is added, but the attribute *definition* is stored separately, once for the entire system.

This separation of value and definition allows the creation of attribute definitions to specifically tailor the implementation of the Strategi database. Each site where Strategi is installed can have their own unique information recorded against each user or website, without all sites having to carry many empty fields they will never use.

Segmented Values

Strategi attributes and system values can be segmented to provide a convenient method of storing up to 3 strongly related values (such as outqueue and library, or first name, initials, and last name). The Strategi commands for accessing attributes and system values do so by using its defined segments.

Each segment is defined with a Prompt (used by work-with programs and displays), a Length (which defines how long the value is) and a Value. Retrieve commands for attributes allow you to get the current value of each segment; retrieve commands for attribute definitions allow you to get the prompt and length of each segment.

The Strategi System Values are a special type of attribute, which combine the attribute definitions and values into one command set. It is not possible to retrieve the attribute definitions for Strategi System Values.

Strategi Zones

Zones

A "zone" is a logical labeling of an area of the AS/400 file system. Zones are used in Strategi to control access requirements to various services Strategi provides (such as authenticated websites), and to allow areas of disk to be accessed via labels, rather than specific path names. A zone is merely a label on a potential file system path. The actual path itself need not exist.

The zone may also define an aliased path, which will define access to the resolved alias when it is accessed via the specified zone. The same alias could have different security requirements depending on the domain through which it is accessed.

For example, an internal website may require no encryption, whereas access to the same data via the Internet could require 128-bit SSL.

Zone Authorities

The Zone Authority list defines what users have access to which resources within the zone itself. Perhaps the easiest way to describe zones and zone authorities is that zones are "branches" of the IFS directory "tree", and zone authorities say who can do what within the zone. Zone authorities can be set at a sub-site level, so you can restrict which users have access to certain parts of the Strategi website.

For example, you would want all users to have access to your complete website at www.yourcompany.com, but you would probably want to restrict access to www.yourcompany.com/sales to just your sales staff.

When you have access to a particular zone restricted to certain users, then anyone accessing that portion of the website receives a Windows Dialog Box like the one displayed below:

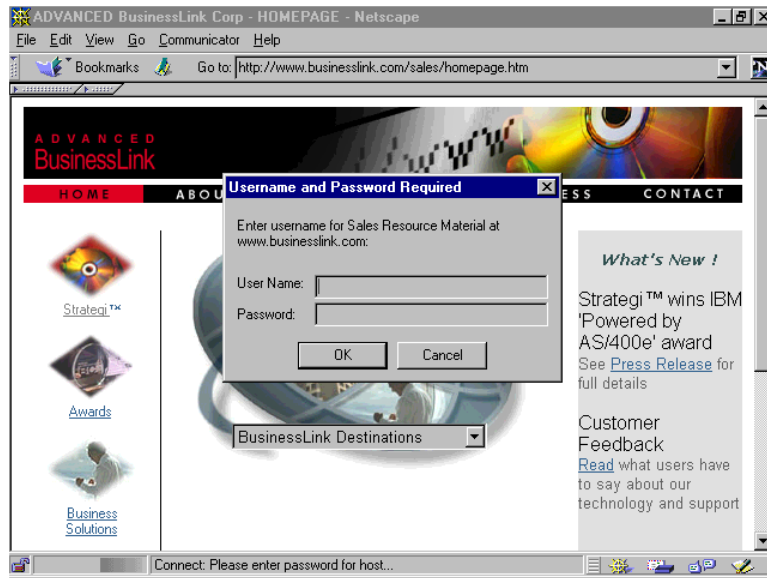


Figure 13, Restricting Access through Zone Authorities

When users enter their name and passphrase, Strategi checks them against the Zone Authorities list. If the user is on the Zone Authorities list, they are permitted entrance to this portion of the website; if not, they receive a screen like the one displayed below:



Figure 13, Access Refused by Zone Authorities

When the applet is delivered from an authenticated zone, the user is transparently authenticated by the host server so that a double logon (once to the site, and once to the applet) is not necessary.

In the example above, when your sales staff go to www.yourcompany.com/sales, they are presented with a Strategi Username/Passphrase dialog box. The salesperson enters their Strategi Username/Passphrase, and are then granted access to your Sales zone as an “authenticated” zone.

Thus, if from within that authenticated zone (your [/sales](#) webpages), you have set up a webpage which delivers the Strategi 5250 emulation to your salesperson’s browser (the same as if a user went normally to www.yourcompany.com/strategi), then the Strategi user will *not* be presented with the Strategi Identification window. The user will *not* need to re-enter their Username/Passphrase a second time; the original Strategi Username/Passphrase Identification will serve as the authentication for that user.

Website Aliasing

“Aliases” are a way to redirect an Internet user's search for a website (zone) to another website (zone), without the need for website maintenance. An alias allows the AS/400 administrator to make any part of the IFS or website to dynamically appear as if it is a part of another website. Aliases can be set up specifically for a single site, or globally to apply to all websites.

For example, let's say you discovered a problem in your online product-ordering webpage (i.e., www.yourcompany.com/products/domestic.htm). Because of this, you want to take this website directory offline to fix it, and have all of your Internet visitors sent to a different page instead, where they can order from your Customer Service dept. (i.e., www.yourcompany.com/products/customerservice.htm).

Normally, you would have to do some maintenance to change the page users are sent to from your homepage. Instead, with website aliasing, you can change the website path, so even when Internet users go to [/domestic.htm](#), they are automatically redirected to [/customerservice.htm](#).

NOTE: Creating, deleting or changing a website alias requires the Strategi subsystem be stopped and restarted for the addition, deletion or change to become effective.

Chapter 7 - Strategi's Java Applet

Java Applet Conventions

Menu Option Buttons

Menu Option Buttons are only available on screens which meet the following requirements:

- The word "Select" (in any typecase) must be in the first six lines of the screen.
- The screen must contain only one input field.

Menu items can have up to 4 digits:

- They must have only spaces or attributes ahead of the number.
- They must have a period (".") at the end of the number.

However, a trailing period (".") is not required if the following entry is put in the configuration file:

```
ATFMCG mbr <CPCcode> entry Remote5250Emulation  
NodotMenuItems Y
```

If you want to include a second column of menu items, that column will be looked for beginning at column 39; text from the first column must have finished by that column.

Experience will tell you how many "false hits" there are, where numbers on the screen are mistaken for menu item numbers. This may be more likely to occur if you do not use the trailing period (".") after your menu item numbers.

F-key Buttons

Generated for "F" followed by one or two digits, with a space or attribute or punctuation (not a letter or digit) before and after.

Field Types

No buttons are generated for text in input-capable fields. The current version generates them for hidden output-only fields; the next release will not do so unless explicitly configured to.

HTML F-key Buttons

Position-sensitive help and prompting is not possible in HTML, but F4 prompting has been implemented by only generating normal F-key buttons in the last three rows of the screen. Above that, generating only F4 buttons, linked to the preceding field.

Button Configuration and Screen Colors

The graphic image used for the Java menu option button is named in the `option_button_image` parameter to the applet (in the HTML document that launches the applet). The colors used for input fields, and for the body and text of the screen, are also parameters to the applet, and can be changed.

HTML Configuration

The image used for the HTML menu option button (“OPTBTN.GIF”) is currently named in the `MenuOptionImage` entry ***ALL** of the WEB525 configuration member on the AS/400. A same-sized transparent image (“OPTBTNSP.GIF”) is used to make second-column buttons line up, using `MenuOptionPadImage`.

HTML F-key buttons are currently only generated if the ***ALL** `FxxButtons` (for the foot) and `F4Buttons` (for F4's in the body) entries of the WEB525 configuration member are both set to “Yes”.

Printing and File Transfer

Strategi Printing

Printing in Strategi is the process of transferring spool files from the AS/400 to your end-user's PC. The output can be sent to the user in several formats:

HTML Format

In HTML format, the output is sent to the PC in a .htm format, causing the default web browser to be launched and the output displayed in the browser window. All the user needs to do to print is press the browser's “Print” button.

The HTML format causes the data to be “tabled”, meaning it is put into table format to, as much as possible, preserve the page break arrangements. If a particular table is too “short”, however, the browser may attempt to fit more than one table onto a printed page, ignoring the forced “page breaks” the tables are attempting to enforce.

There is a known problem with printing through MSIE 3.02. MSIE doesn't correctly identify table tags in HTML, therefore, any page breaks in your HTML code will not function properly. However, in Netscape 3.02+, and MSIE 4.0 and above, HTML page breaks do work properly.

The font size of “2”, in the Java-applet-loading HTML, controls only the display of text in the HTML screens. It has no effect on the display of reports Java-printed as HTML, because those settings are hard-coded into the Strategi software.

The default parameter for printed reports is font size "3" for anything up to 80 characters. For outputted reports longer than 80 characters, the font size changes to "2".

As these parameters are hard-coded, reducing the font size to "1" would necessitate changing your programs which generate the printed reports.

HTML formatted according to the following rules:

1. Leading blank lines are dropped from each page.
2. From the first non-blank line until the next blank line, the lines are "bolded" by inserting HTML controls.
3. The rest of the page is printed according to the actual spacing of the report.
4. If the report is 80 columns or less (per the spool file record length), the standard browser font is used.
5. If the report is greater than 80 columns, the reduced browser font is used.
6. As mentioned, each page is encapsulated by a frame, the treatment of which is somewhat browser-dependent; Netscape will print as many entire frames as it can on one page and will print continuously if a frame exceeds the page size.

.RTF Format

Selecting ***RTF** as the output format causes the output to be sent to the user's PC in a .RTF format. This in turn launches Word, which can properly display .RTF documents.

Using the .RTF format ensures that page formatting, line breaks, font sizes, etc. are properly displayed in Word, ensuring the report will display (and print to hardcopy) in the format you intended.

Opening RTF Prints in Word Instead of Browser

When MSIE version 5 installs, it automatically changes the default viewer for .RTF files away from MS Word (or Windows WordPad) over to itself. In order for .RTF files to change back over so they open in MS Word instead of a browser window, your users must change certain settings on their PC:

1. In Windows, open "My Computer" or Windows Explorer.
2. On the menu bar, click "View" and select "Options".
3. Click the tab labeled "File Types".
4. There will be a list of document types for the user's PC. Have the user scroll down the list until they find the entry "Microsoft Word Document".
5. Click "Microsoft Word Document" and then click the Edit button.
6. A screen opens that specifies different settings for this file type. In the lower right hand corner of this window is a setting that says "Browse in same window".

In order for .RTF and Word documents to open in Word, the user must uncheck this setting.

Binary Printing

By definition, a "binary" print is one where the AS/400 has generated the final data to be sent to the client printer, e.g., HP PCL5 data in ASCII. The data must be taken from the AS/400 without converting it from EBCDIC to ASCII, and cannot be loaded into an application on the client PC.

To be treated correctly by Strategi, the file extension must be ".prtbin".

Creating Binary Prints

If created as a spoolfile, the Create Printer File command (run before the spoolfile is actually created) must contain the parameter **DEVTYPE (*USERASCII)**, causing Strategi to automatically treat it as a binary print file.

If created as a database file after the spoolfile has been created, the **SNDSGIF** command must have the parameter **FROMFMT (*DB2400BIN)**.

Setting File Extension

For spoolfiles sent automatically by Strategi's PUSHWRITER (viewable through **WRKACTJOB**), or by **SNDSGIF** with no TOFILE specified, Strategi will automatically set the ".prtbin" extension. Otherwise, the TOFILE value will be used.

For database files, a TOFILE with extension ".prtbin" must always be specified on **SNDSGIF**.

Client Action

In Strategi, if the end-user's web browser is MSIE 4.x or greater, and the Authenticode signed Strategi applet (abljem.caa) is used, Strategi will:

- Prompt for the printer path on the first binary print.
- Store that path on the local hard disk.
- Send the print directly to the printer.
- Refrain from prompting for the printer path (on subsequent automatic prints).

If the end-user is using a different browser, such as MSIE 3.x or any Netscape browser (where the Authenticode-signed Strategi applet is not being used), a Windows dialog box will pop up and offer the user the choice of "Save The File To Disk" or "Run An Application".

Binary prints can still be made to automatically print within Windows by creating a batch file containing the command **COMMAND /C COPY %1 LPT1**, then using Windows Explorer to "associate" files with the ".prtbin" extension and the "application/x-prtbin" MIME Type to that batch file.

Local Hard Disk

Retaining the print path for binary prints requires storing some information on the end-user's PC. The first time a binary printfile is sent to the end-user, certain files

and directories are set up automatically (the default setup can be modified, if needed, once it has been created).

In the Java home directory, typically “C:\WINDOWS\Java”, a file named “Strategi.pth” contains the path to the Strategi directory, typically “C:\WINDOWS\Java\Strategi”. Note: Both directory names are logged to the Java Console (as "Java home directory" and "Application root directory" respectively) to assist troubleshooting.

In the “C:\WINDOWS\Java\Strategi” directory may be a file called “prtbin.pth” which contains the path to the printer.

These two .pth files (Strategi.pth and Prtbin.pth) can be edited with any text editor if needed, and the temporary directory (usually “tmp1”) can also be cleared if needed (manual clearing will not normally be needed, as Strategi automatically clears the directory each time it is loaded to the end-user’s PC).

In the unlikely event that the Java home directory cannot be written to by Strategi (e.g., because of network file access restrictions), the system administrator must manually create the Strategi.pth file there, pointing to a usable part of the file system.

***HPT (Host Print Transform) Format**

Strategi Host Print Transform allows one to convert AS/400 prints to binary prints automatically, bypassing the need to use another program for the conversion. *HPT can be specified as a print format for the entire Strategi system (through the PRINTFORMAT Strategi value), for a specific Strategi user (through the PRINTFORMAT user attribute) , or when sending one print file through SNDSGIF (through the TOFORMAT parameter).

When specifying to use *HPT as a print format, a printer type must be either implied or specified. This is because Strategi will be responsible for converting the document into a viable binary stream to be sent to your printer. Since printer languages differ so greatly, Strategi must know the type of the destination printer if it is to create a valid print file. The AS/400 already has a way of denominating printer types, which you can get by listing the options for the MFRTYPMDL parameter of the LPR command. By default, Strategi will use *HP4, which generates HP LaserJet compatible prints. This can be overridden with the MFRTYPMDL parameter in the SNDSGIF command. If the Strategi value PRINTFORMAT is set to *HPT, the printer type can be set by through the second segment of the user attribute. From the CHGSGIUSRA command you can use F9 to access the second segment.

Strategi File Transfer

Strategi allows users to receive various kinds of AS/400 files through the Java applet. When files are sent to a user, what happens at the PC end will depend on what the user’s browser and operating system are configured to do with that sort of file. They could be sent a Microsoft Word document, for example, which most PCs would open in Microsoft Word.

To send files to Strategi users, you can use the SNDSGIF command. This command allows you to send various kinds of files to a user in various resulting formats. The command has complete help text, which you can view to find out more about each from- and to- format.

One file format which may present difficulty for the user to retrieve is .DBF format. Below is some more information on how the user can open such a file.

.dbf Format

When an AS/400 database file is sent to a user in a .dbf file format, it is expected to load and display under Microsoft Excel (as Excel can properly display the data in columnar format). If your end-user is having difficulty in getting the reports to display properly in Excel, please ensure their computer is properly set up to receive the data per the following instructions:

Start up Windows Explorer (not Internet Explorer), then select "View", "Options", "File Types"; then set the following:

Description	Setting
Description of Type	dBase file (this is not critical; you may name it as desired)
Content Type	application/other-x-dbf
Default Extension	.dbf
Action Open	Application used: "C:\MSOffice\Office\Excel.exe". Note: Set your own Excel's path to EXCEL.EXE; be sure it is not set to Excel.lnk; also quotes are needed.
Use DDE	Must not be checked
Quick View	Check if desired

Table 13, Stragegi Printing settings

As a system administrator, you would use the **SNDSGIF** command to send the output to the user's Stragegi outqueue (using device "S").

Taking Advantage of Java Applet Capabilities

Stragegi's Java applet has many features and capabilities to enable your remote customers to work with your AS/400 data.

Complete Parameter Listing

A complete list of available Stragegi applet tags, and examples of their use in HTML, can be found in Appendix # 5, "Default BusinessLink Website".

Chapter 8 - Using the Strategi Applet

The Strategi applet is the interface between your customers and employees and your AS/400. A complete copy of the Strategi User's Guide can be retrieved from <http://support.businesslink.com/download/download.htm>

We will not reproduce the User's Guide here but, as the system administrator, you should be familiar with the Strategi applet's features:

Display Features

GUI and Text Modes

After entering their username and passphrase in the Strategi Identification window, your customers and employees will see the AS/400 emulation window in either GUI or Text mode (depending on their selection), as displayed below:

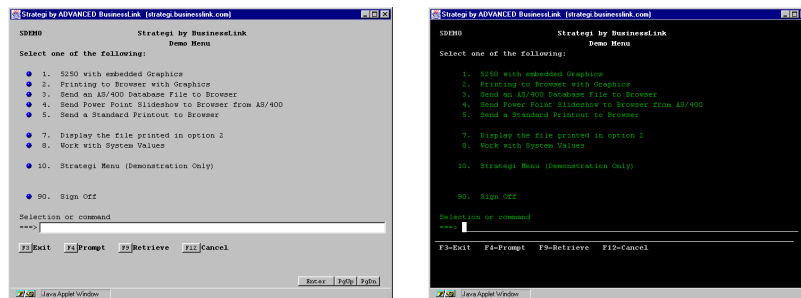


Figure 22, Strategi Emulation Window, GUI and "Text" modes

Alt + Shift + G toggles between the two modes on the user's next input (pressing **Enter** also counts as input, so will toggle modes while remaining on the same screen.

132-Column Mode

Strategi is also capable of 132-column mode, but only displays it when working in a "Display Objects" screen; otherwise, emulation screens appear in regular 80-column GUI or Text mode. 132-column mode can also be displayed in both GUI and Text mode by using the **Alt + Shift + G** toggle. A 17" or larger monitor is recommended if using 132-column mode.

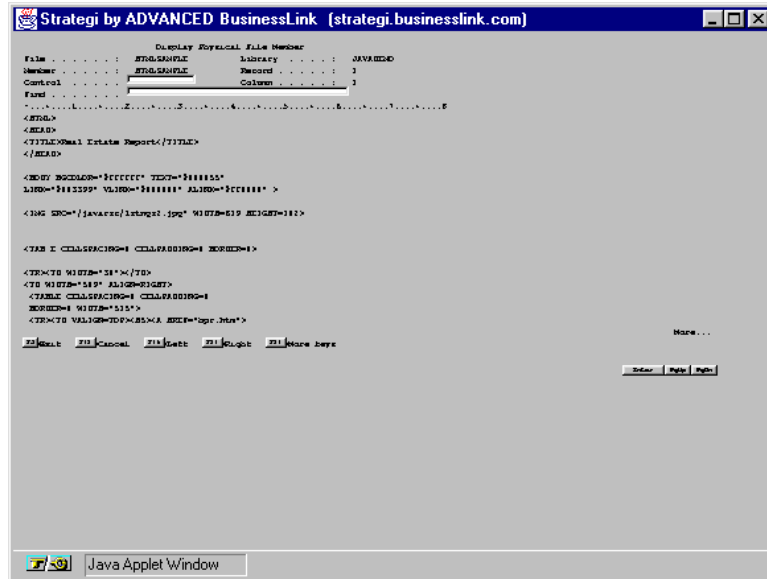


Figure 23, Strategi Emulation Window, 132-column mode

The print in this example appears small because, in order to keep the columns aligned, we chose to use a fixed-width font, and using a larger font size would have made the Strategi 5250 emulation window too wide to fit onto a computer screen. A fixed-width font is needed here, rather than a proportional font like Arial Narrow (which would have allowed us to display a larger font size); as Arial Narrow is a proportional font instead of a fixed-width one, it would have destroyed any sense of column alignment.

132-column mode can be disabled. If you “check-out” the HTML Strategi-applet-loading pages using Webmaster, please look for the following line:

```
<!PARAM NAME=allow_132_column VALUE=no>
```

Remove the Exclamation Point from in front of PARAM NAME and use Webmaster to “check-in” the modified webpage, and Strategi will then be forced to always display the screen in 80-column mode. (To be consistent, you would want to do this for both the GUI-mode and Green-Screen-mode HTML loading pages).

Please note, though, that the 80-column mode rule will then be enforced for all screens viewed through Strategi. In other words, you cannot turn off 132-column mode for SEU and, for example, have it turned back on for PDM; it's an “all or nothing” proposition.

Dynamic Window Resizing

As with any Windows application, you may resize the emulation window by using the mouse to drag a corner or side of the window in any direction. Strategi will resize the window text as well, dynamically selecting the “best-fit” font:

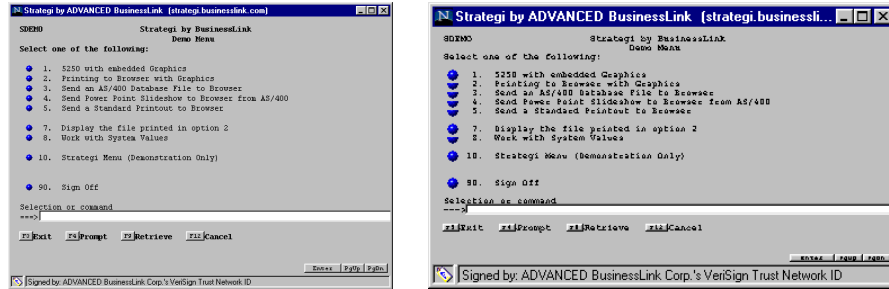


Figure 24, Dynamic Window Resizing, GUI mode

This functions in Text mode as well:

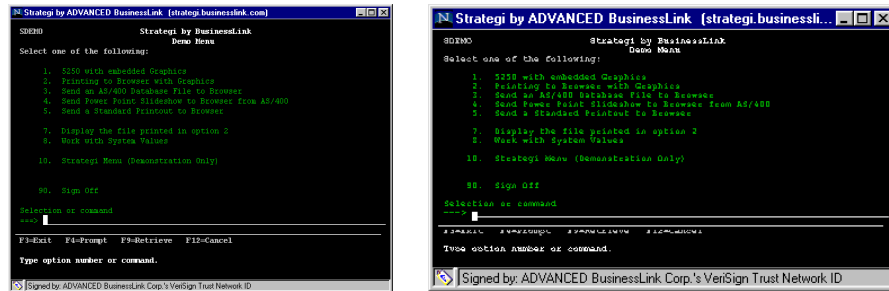


Figure 25, Dynamic Window Resizing, Text mode

Macros

Loading the signed version of the Strategizer applet will allow you to use Macros. The Macros button appears in the lower right corner of the applet window. Macros enable you to enter an entire sequence of keystrokes with the press of a button, to avoid typing it over and over again.

To record a sequence of keystrokes, press the "Macros" button and then choose "Record". Type your sequence of keystrokes, and when complete, press the "Stop Recording" button. The dialog box "Macros" will pop up prompting you to save the key sequence you just entered. Type a name in the "Macro Name" box and then press the "Save" button.

To use the macro, simply press the "Macros" button again and choose the name of the macro you need. This macro will be available whenever you sign in as the same Strategizer user with the signed Java applet.

Copy and Paste Capabilities

Strategizer allows you to copy and paste from the signed version of the Java emulation applet, in GUI and TEXT mode. To copy text, click and hold the right mouse, then drag your pointer over the text you want to copy from the emulation screen.

Once you've selected what you want to copy, release the right mouse button, and you'll receive pop up menu to either copy or cancel. Once text is copied, you can paste into another emulation field using 'Ctrl-V'. You can also paste into other Windows applications.

Strategi Functions

Clicking the right mouse button brings up the Strategi Function Window, as displayed below:

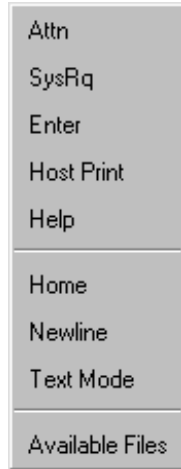


Figure 26, Strategi Functions Window

This window remains on the screen until the user ends it by clicking on the "Exit" button, and can be minimized and maximized. An explanation of the buttons follows:

Name	Description
Attn	Attention
SysRq	System Request
Enter	The same as pressing the keyboard "Enter" key. For instance, this can be helpful in toggling between GUI and Text modes, which requires input to activate the change; pressing the "Enter" button is considered "input", so effects the change while remaining on the current screen.
Host Print	Takes a text-only "snapshot" of the screen, opens a new instance of the browser and display the "snapshot". User's can print the screen by pressing the browser's "Print" button.
Available Files	Displays the Available Files window
Help	Displays the help file for that screen
Home	The Home key moves the cursor to its initial position on the screen, or if already there submits a Record Backspace request to the

	AS/400.
Newline	The keyboard “End” key is mapped to the AS/400 Newline key, which moves the cursor to the first input field on the following line, (and wrapping to the first field on the screen if no input fields follow).
GUI/Text mode	Toggles between GUI and Text modes (same as Alt + Shift + G)

Figure 27, Stragegi Button Functions

Stragegi Keyboard Mapping

The following keystroke combinations work, while the Java applet is running, to produce specific results for your AS/400 customers:

Keystroke	Action
Alt + A	Attention.
Alt + I	Insert (this is needed in “Text Mode” in Netscape, as it does not support the real “Insert” key).
Alt + S	System Request.
Alt + P	Host Print key.
Alt + F	Refresh and display Available Files List.
Alt + H	Swaps Enter and Ctrl + Enter functions.
Alt + T	Test Request.
Alt + Shift + G	Swaps the GUI/Text input modes, starting with the next screen displayed; pressing Enter will effect the change and keep the user on the same screen..
Alt + Shift + Enter	Swaps Enter and Ctrl + Enter functions.
Alt + Ctrl + Enter	The old version of Alt + Shift + Enter.
Tab	Tab between fields.
Enter / Ctrl + Enter	Destructive Field Exit (Text mode).
Gray “Plus”	The “+” key on the numeric keypad. This is the true “Field +” and destructive “FieldExit” (wipes the remainder of the field).
Gray “Minus”	The “-” key on the numeric keypad. This is the true “Field -”. Works in signed numeric fields only; otherwise, just inserts a dash (“-”).
Shift + 6	Inserts a caret (“^”) character, which is then converted to/from the “not” character on the AS/400.

Shift + \	Solid bar in Java, used in C source code.
Alt + \	Broken bar, which displays as a solid bar until you leave the field); used in AS/400 CLP sources (see notes below on Pipe Characters).

Table 14, Stragi Keyboard Mapping

Notes:

- The “cent” character (a measure of US currency) can be displayed, but cannot be keyed in.
- The Java applet tag is set to an initial behavior of “Enter” or “FieldExit (Ctrl + Enter)” using the parameter:

**<PARAM NAME=enter_key_action VALUE=field_exit>
<! or default VALUE=enter>**

- The main “FieldExit” (Enter or Ctrl + Enter, depending on the parameter setting above), acts as a “Tab” in GUI mode, but as a true (destructive) “FieldExit” in Text mode.
- Please note that none of the “Alt +” combinations work at all in MSIE 3.x (although the buttons on the right-click popup dialog still function properly), as MSIE 3.x will not support any use of the “Alt” key. This was a known bug in MSIE 3.x, which was fixed in MSIE 4.0. The F10 and F22 keys also do not work in MSIE 3.x, and there is currently no workaround available (although on-screen buttons, if they are present, do work).
- Conversion of carets, bars, cents, etc. depends on the correct EBCDIC/ASCII tables being configured.
- The Insert button only appears if the current display mode is “Text”, as all GUI input boxes will normally have “insert on”. Note: the keyboard “Insert” key does not function in Netscape v3 and v4 under Windows ‘95, although **Alt + I** does function properly.

Pipe Characters

The primary pipe character, as used in C program sources on the AS/400, is entered normally, using “**Shift + **”, displaying a solid bar (as it does in other Windows programs).

The secondary pipe character, needed for CL programs, is not accepted by Java text boxes (not even as an Alt + Onnn entry). We display it as a broken bar on output, and use “**Alt + V**” for keying. For Netscape, the secondary pipe character displays as a solid bar when keyed, then all solid bars are changed to broken bars on “Field Exit” or “Enter”. For Explorer 4, “**Alt + V**” must be keyed at least once when in the field to flag usage, then “**Shift + **” must be used to enter the characters, changing on “Field Exit” (as it does for Netscape. MSIE 3.x does not allow this to be keyed.).

Both bars cannot be keyed into the same field, only one or the other. Conversion from solid to broken bars on the Field Exit applies to all bars (if any of them have been keyed in with “**Alt + V**”).

Additional Stragegi Features

Stragegi Emulation Screen, Page Action Buttons

At the bottom right of the Stragegi emulation screen, there are three buttons:

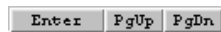


Figure 28, Stragegi Page Action Buttons

Clicking on the buttons will perform an “Enter” (same as right “Ctrl” key on the PC keyboard), “Page Up” or “Page Down”, as appropriate.

If you find the buttons hide any meaningful text at the right-hand end of the status line, the buttons can be dismissed by doing a “right-click” with the mouse anywhere on the line where the buttons are. They can be made to reappear on the current screen with another “right-click”, or will automatically appear on the next screen displayed.

Mouse Selection

The Java applet supports mouse selection of typical AS/400 lists, where there may be selections such as:

1=Select 4=Delete 8=Work with job

at the top, and a number of rows each with a single input field for entry of the option number. Clicking one of the options causes it to be highlighted, and an information message appears at the bottom of the emulation window, saying something like:

“Click on line for 8=Work, DoubleClick to Enter”.

Clicking anywhere on one of the lines in the list will then cause that option number to be placed in the input box for that line; “double-clicking” will not only enter the option # but will also press “Enter”. Clicking anywhere else on the screen will un-highlight the option; **Page Up** or **Page Down** will also un-highlight the option.

If there is a “1=Select option”, it is automatically highlighted as the screen is displayed (including after a “PageUp/Down”, even if a different option may have been highlighted before the “PageUp/Down”).

The detailed rules are:

- a. This is only available in GUI mode, not Text mode. Options can be anywhere on the screen.
- b. Options consist of one or two characters, then an "=", then some text. Two-character options starting with "F" are ignored (they are F-key buttons). The option number, or first word of the option text, must be clicked. "Option 1=Select" is automatically selected on a new screen, unless there is a status message at the foot of the screen.
- c. The line item option entry fields must be 1 or 2 characters long. Clicking on the screen background, other than an option or option line, results in normal cursor positioning, and de-highlights any option.
- d. Strategi's ability to enter "5=Display", etc., by clicking on the relevant list line also applies to lines that have multiple input fields, as long as only one field looks like an option (one or two characters long, and a normal text field). This allows selection in, for example, the standard SEU list display.
- e. Highlighting the options will not occur if there are no lines on which mouse select would be valid.

Disabling AS/400 Function Keys

Strategi permits suppression of the AS/400's "Attention", "System Request", and/or "Host Print" keys. The buttons in the "Strategi Function" box (brought up via right-mouse-button click) are grayed out (disabled), and the corresponding **Alt +** keys have no effect. To disable any or all of these keys, insert the following HTML into the webpage loading the Strategi applet:

<PARAM NAME=Disable_Keys VALUE=xxxxyyyzzz>

where **xxxxyyyzzz** can be any, or all, of the following:

Value	Description
ATN	Attention
SRQ	System Request
PRT	Host Print

Table 15, Disabling AS/400 Function Keys

For example:

<PARAM NAME=Disable_Keys VALUE=ATNSRQPRT>

would suppress all three function keys, while

<PARAM NAME=Disable_Keys VALUE=SRQPRT>

would suppress just System Request and Print.

The ATN, SRQ, and PRT codes can be in any order, and any case.

This can be useful in restricting casual user access without going through the complex AS/400 steps which are otherwise needed. Note: if you want these disabled to all users, regardless of whether they launch the Strategi applet in GUI or Text modes, you will need to insert this code into both BASEGUI.HTM and BASETXT.HTM):

Attempt Connection to Other than Source Server

A new applet tag allows connection to addresses other than the server from which the applet was loaded, making Strategi ideally suited for use behind firewalls:

<PARAM NAME=Connection_Host VALUE=xxx.xxx.xxx.xxx >

where xxx.xxx.xxx.xxx is the IP address to connect to, or the DNS name to connect to (e.g., "firewall.somenet.com") if DNS is being used behind the firewall. If the firewall port to connect to is not the usual 43856 used by Strategi, you must also include:

<PARAM NAME=Connection_Port VALUE=pppp>

where ppppp is the firewall port number (decimal) to connect to.

Please note that this will fail applet security unless the browser is MSIE v4 and an Authenticode-signed cabinet is used, as below:

<PARAM NAME=cabase VALUE=abljem.caa>

This tag cannot be used to circumvent SSL website security. It does not affect SSL RC4 key exchange, which is always with the server from which the loading HTML originated. If another server is specified for connection to, that target Strategi server will refuse the connection; user will only be permitted to, ultimately, connect back to the originating Strategi server.

Return to Previous Field

When the cursor is outside an input field, **Shift + Tab** causes the cursor to go back to the previous field.

Errorline Messages

Let's say, for example, the you use **Alt + P** to print a screen, then immediately do **Alt + Shift + G** to toggle GUI/Text mode. The AS/400 "errorline message" (confirming the "Print" key has been processed) is normally overwritten by the local feedback (saying the GUI/Text mode will change on next screen). The two messages can be switched between by left-mouse-button clicking on the message itself.

Changing Screen and Input Font Sizes

Strategi has the ability to change the font size of the displayed AS/400 screen, and also the size of the font which appears inside GUI input boxes, using the following (optional) settings:

<PARAM NAME=screen_fontsize VALUE=xx>

and

<PARAM NAME=input_fontsize VALUE=xx>

The default font size for the screen is 13, and for the GUI input box is 11.

In text mode, the command line/input line font size remains the same as the screen font, as it does not have to contend with the input box. In GUI mode, however, the input box text needs to be smaller than the screen font in order to keep the screen in balance, because of the space used by the borders of the GUI input box.

Changing the Screen Font

Because positioning of items on an AS/400 screen relies heavily upon the use of a fixed-width screen font (like Courier) vs. a proportional-width font (like Arial), Strategi does not support changing the actual screen font itself, only changing the font sizes.

Appendix 1 - Support and Services

ADVANCED BusinessLink Corp wants you to get the most for your software investment, right from the start. That is why, whatever your business needs, we offer a level of support to fit: support for your end-users, support for a single help desk, or support for your worldwide information services organization.

Because we are committed to offering consistent, reliable support, BusinessLink concentrates technical expertise in three global Customer Support Centers based on three continents, enabling each center to offer both depth and breadth of technical knowledge.

Customer Care Program

ADVANCED BusinessLink Corp. provides support and service through our Customer Care Program. This service includes hardware (where applicable) and software maintenance, free software upgrades, and unlimited technical support through telephone, e-mail and fax during our normal business hours (6 am to 6 pm West Coast time on normal business days).

Software Upgrades

As improvements are made to the Strategi, periodic upgrades will be released to the field. As these become available, participants in our Customer Care Program will automatically receive notification of these upgrades and may download and install them at no additional charge. As these improvements and refinements to enhance ease-of-use and provided improved capabilities are made to the software, you will be informed of the enhancements provided by the upgrade and offered the option to receive it.

Instructions for installing a Strategi upgrade can be found by going to the BusinessLink Technical Support website at <http://support.businesslink.com>, click on the “TechZone” button, then click on the “Strategi” in the Technical Support Bulletins column. At the next screen, select the Technical Bulletin titled “Strategi Upgrade Instructions”.

Customer and Technical Support

Participants in our Customer Care Program receive unlimited free Technical and Customer Support from our in-house staff. Our Customer Support and Technical Support Divisions in our United States offices operate during the times indicated in “Technical Support” below, except for the following normal U.S. business holidays:

New Year’s Day
Fourth of July

Memorial Day
Labor Day

Thanksgiving Day

Christmas Day

Our Australian divisions are closed on the following business holidays:

New Year's Day
Australia Day
Easter Monday
Labour Day
Boxing Day

New Year's Day Holiday
Good Friday
Queen's Birthday
Christmas Day

Our British divisions are closed on the following business holidays:

New Year's Day
Boxing Day
(Other dates and holidays as appropriate; please contact
the UK office for details.)

Christmas Day

Customer Support

Our Customer Support Division will contact you within two days after the server installation to confirm your Strategi system is running smoothly, and answer questions you may have about your system. We will serve as an informational and assistance resource, and help you capitalize your investment by discovering additional ways to utilize Strategi to give your business the advantage over your competition. The Customer Support Division's mission includes ensuring you receive world-class service and support from our entire BusinessLink team.

Technical Support

The Seattle, Washington (United States) office of our Technical Support Division is available Monday through Friday, from 7 a.m. to 5 p.m., Pacific Standard Time. The Sydney, Australia branch of our Technical Support Division is available Monday through Friday from 8 a.m. to 6 p.m. (Australian time), and our U.K. branch is available Monday through Friday from 9 a.m. to 5:30 p.m., London time. By providing support during these times, we can meet your needs wherever you may be. With several offices around the globe, if we are unable to solve your problem during the normal business day in which you report it, we can pass your needs along to another office and continue to work on your solution throughout the night.

If you are unable to reach a support person by phone, the next best way to reach us is by sending email to the appropriate regional service center. A support person will get the message the same day, or, at latest, first thing the next business morning.

Technical Support Website

The BusinessLink Technical Support website (also referred to as the "Tech Zone") can be found at <http://support.businesslink.com>. BusinessLink offers this website as an additional source of technical information for our customers. Available

information ranges from frequently asked questions (FAQs), HSM demonstration code, online documentation and software updates.

Complete Support

The goal of our Customer Support and Technical Support Divisions is to provide you with an exceptional level of satisfaction and service.

AS/400 Support

ADVANCED BusinessLink Corp. is not a reseller of IBM AS/400 systems. Because of that, we are unable to provide more than minimal technical support for AS/400-related hardware or operating system problems.

For your convenience, however, the Internet World Wide Web address for IBM's AS/400 Technical Support website is <http://as400service.rochester.ibm.com/>. This site provides access to not only AS/400 technical support, but also IBM's knowledge databases, technical publications, fixes, Q&A, download libraries, forums and mail support.

ADVANCED BusinessLink Corp. Contacts

To reach ADVANCED BusinessLink, please contact us at one of the offices listed below:

United States

Address: ADVANCED BusinessLink
 5808 Lake Washington Blvd.
 Suite # 100
 Kirkland, WA 98033 USA

Phone: 800-675-1855 (toll-free for US and Canada only)
 425-602-4777 (international users please add +1)

e-mail: support_us@businesslink.com

Fax: 800-675-1901 (toll-free for US and Canada only)
 425-602-4789 (international users please add +1)

Australia

Address: Advanced BusinessLink (Australia) Pty. Ltd
 (formerly ADVANCED Systems Development Pty. Ltd)

Suite 3, 8 French Ave.
Bankstown NSW AUSTRALIA 2200

Phone: +61 (2) 9790 0555
Fax: +61 (2) 9790 1823

e-mail: support_au@businesslink.com

United Kingdom

Address: ADVANCED BusinessLink (UK)
Spirella Building - Suite 207
Bridge Road
Letchworth Garden City, HeRTFordshire SG6 4ET

Phone: 44 01462 476 777
Fax: 44 01462 476 778

e-mail: support_uk@businesslink.com

Note: the "space" in the above address is actually the underline ("_") character.

Website

<http://www.businesslink.com>

Appendix 2 – Secure Sockets Layer and Strategi

Secure Sockets Layer Registration

If your organization has determined it has a need for high-level security and protection for its data, Advanced BusinessLink Corp. is capable of arranging for Secure Sockets Layer encryption. The normal data-encryption level permitted by the U.S. government, for export purposes, is 40-bit encryption. There is a greater degree of protection available, however, for companies on United States soil through Secure Sockets Layer encryption (SSL) and, potentially, for international companies.

Strategi is fully capable of supporting 40-bit, 56-bit or 128-bit SSL data encryption through an additional SSL module. The level of data encryption your company can legally use, however, depends on where your company is located. If all entities of your company are entirely within the United States of America, you are permitted full use of either 40-bit, 56-bit or 128-bit data encryption.

If any entities of your company are outside of the United States, the U.S. Department of Commerce will determine the level of encryption you can use. 40-bit data encryption is authorized for export without any special permission; export of 56-bit or 128-bit encryption technology requires authorization by the U.S. Department of Commerce. Per U.S. Department of Commerce, Bureau of Export Administration Form BXA-6002 (Rev. 7/96):

“Applications for export must be submitted on Form BXA-748P Multipurpose Application. These forms may be obtained by calling (202) 482-3332. Assistance in filling out the form, or any aspect of exporting, is provided by the Export Counseling division in Washington, D.C. at (202) 482-4811, or the Western Regional Office in Newport Beach, California at (714) 660-0144.

See Commerce Country Chart (Supplement No. 1 to part 738 of the EAR (Export Administration Regulations) to determine which countries require a license. Use the Country Column Chart information given on the front of this form in conjunction with the Country Chart to determine the licensing requirements for your particular items. For items classified EAR99, see part 746 of the EAR to determine the licensing requirements.”

If desired, we can recommend established export consultants who will work with you to prepare the necessary applications with the U.S. Department of Commerce for 56-bit or 128-bit encryption.

40-bit data encryption has proven itself to be secure enough to meet most companies needs. Even with very fast Pentium machines, it can take up to a day to crack the encryption on one data packet; once that happens, though, the “cracker” must go back to “square one” and begin working on the next data packet from the beginning. Thus, the amount of time it would take to decode an entire data stream means devoting months, if not years, of computing power to decoding one complete data file.

Advanced BusinessLink Corp. products have proven themselves over the years to provide industrial-grade data encryption. For our company, providing the level of encryption you may desire for your data is important. From an integrity standpoint, we can only provide you with the level of encryption security your company has been fully authorized to use. While there may be vendors who claim they can provide 56-bit or 128-bit data encryption without going through the proper channels, we feel it would be unfair, not only to our clients but also to ourselves, if we were to compromise ADVANCED BusinessLink Corp.'s reputation for honesty in that manner.

Corporate Identity

Domestic

As part of processing the Digital ID request, Verisign must verify your corporate identity. The quickest way for Verisign to do this is using your Dun & Bradstreet (D-U-N-S) number.

If your company does business within the United States, and you do not know your company's D-U-N-S number (or do not have a D-U-N-S number), please go to https://digitalid.verisign.com/dnb_query.htm (the "blank space" in this URL is actually the underline "_" character) to search for it, or apply for a new one for free. If you do not wish to use a D-U-N-S number, or your company is not in the United States, you can fax or mail Verisign any of the following additional information (Proof of Right) when you complete the enrollment form:

- Articles of Incorporation
- Partnership Papers
- Business License
- Fictitious Business License
- Federal Tax ID Confirmation

International

International D-U-N-S numbers must be listed in the Dun and Bradstreet database for at least two months before Verisign can verify your company's information. If you have received your D-U-N-S number less than two months ago, you must provide "Proof of Right to Use" documentation (<https://digitalid.verisign.com/non-engl.html#proofOfRight>). For additional information, go to "Enrollment Help for Our International Customers" at <https://digitalid.verisign.com/non-engl.html>. All documents must be submitted in English. Please make sure to reference your server/domain name on all correspondence; list your server as "Advanced BusinessLink". Verisign's fax number is 415-961-8870 (international customers please add +1). Their mailing address is:

Digital ID Center
Verisign, Inc.
1390 Shorebird Way
Mountain View, CA 94043, USA

SSL Authorization

Installing SSL on a Strategi webserver is a straightforward process. If your organization has purchased the SSL add-on module (this is included at no-charge with the Strategi Enterprise and Global systems), please go to the BusinessLink Technical Support website at http://support.businesslink.com/techzone/sec_tsb.htm and select the document titled “Installing SSL on Strategi Webserver”.

Your organization will be dealing directly with Verisign to obtain the SSL authorization. Strategi has been designed to make the pre- and post-Verisign work easy to accomplish; the above mentioned document has all the step-by-step information you will need.

Pricing

Information on Verisign’s pricing and methods of payment can be found at their site, <https://digitalid.verisign.com>. Information on ADVANCED BusinessLink Corp.’s pricing for adding and supporting SSL capability in Strategi can be obtained from your BusinessLink sales representative.

Data Encryption Links

We have included here several links from which you can gain additional information on the subject of data encryption. With the fluid nature of the web, of course, there is no guarantee these links will still be in place by the time you read this document, but they are provided for your convenience. The inclusion of these links in this document in no way, shape or form represents any type of endorsement, either official or unofficial, by ADVANCED BusinessLink Corp., of any materials or references contained therein:

“HOW SSL WORKS: AN INTRODUCTION TO KEY CRYPTOGRAPHY” can be found at <http://home.netscape.com/security/techbriefs/ssl.html>.

The latest Frequently Asked Questions (“FAQ”) on Cryptography can be found at this address: <http://www.rsa.com/rsalabs/newfaq/>.

For the latest news on current data encryption issues, go to <http://www.crypto.com/>. This site has all the latest stories and information on U.S. Government Encryption Policy.

Another source of information on current encryption development is the Electronic Privacy Information Center (EPIC) at http://www.epic.org/alert/alert_vol_4.html (Note: the blank spaces in the URL are actually the underline “_” character).

SSL Securing the Strategi Applet

For the Strategi Java-applet-loading page to be SSL-secured, it needs to be loaded from a page under the SSL-secured domain name "umbrella", and customers need to access it by entering through the domain name vs. the external IP address.

The Strategi applet does not itself run SSL, but rather uses the browser's SSL connection to exchange industrial-strength RC4 session keys. By using the browser's SSL to setup each Strategi session, the Strategi applet ensures it uses different keys for each session. As a result, the data stream cannot be "hacked" by someone using a TCP/IP traffic-monitoring device.

From the BusinessLink/WEB (another ADVANCED BusinessLink Corp. product) manual:

"BusinessLink products provide the highest level of security available, not only through data encryption but also by implementing a multiple-level password and "passphrase" system (for additional encryption security, the passphrase can contain up to 50 characters, such as a complete sentence). All of this is designed to ensure that only the users you want to interact with your AS/400 will actually be able to send to and receive data from it.

"All Java traffic is scrambled, so anyone watching the TCP/IP packets will see only random garbage, even between otherwise identical emulation sessions. Once the Java user and passphrase have been accepted, the passphrase is used to further encrypt the data; even someone who has analyzed the applet code will be unable to retrieve the actual data. The strength of the security is directly related to the length of passphrase used, with at least thirty to forty characters recommended; the longer the passphrase, the stronger the security.

"This, then, provides a much higher level of security than the 8 - 10 character passwords commonly used by others. The longer the encryption key, the harder it is to crack the passphrase and, thus, the greater the security. Please note that we're talking here not about an encryption level of 40 to 50 *bits*, but 40 to 50 *bytes*.

From Sun Microsystems (<http://java.sun.com/javastore/jserv/ssl.html>):

"Secure Sockets Layer (SSL) Protocol Explained

"The Secure Sockets Layer (SSL) Protocol provides several layers of security available for all users of a web server equipped with SSL. All data coming from and going to an SSL equipped server is encrypted. This ensures that anyone who may be able to spy on the data transmission will not be able to understand the data. An SSL equipped server can also identify itself to anyone who visits it. This ensures that your clients can trust that they have indeed connected to the server they intended to reach."

While someone might, once the connection is established, be able to brute-force redirect the Strategi session to another server, this other server will not know the session key. There is no danger of data being exchanged between the wrong server and the Java emulation session; because they can't communicate, the two will simply sit and stare at each other.

Also from the Sun website:

"When a client makes an SSL request, the server replies with a message and a certificate signed by a certification authority that establishes the server's identity. If the client trusts the certification authority, which may be the server itself or a trusted third party, a secure connection is established."

If someone were to attempt to spy on the data, even if they knew what the program was doing and knew the encryption algorithm, it still wouldn't do any good, because they wouldn't have access to the passphrase-generated encryption key.

Appendix 3 – Strategi Webmaster

Strategi's Webmaster is a utility, installed on a PC, to manage and modify website content. When executed, it connects to the Strategi webserver and synchronizes the directory content of the Webserver and the remote PC.

Complete instructions on installing and using Webmaster can be found in the Webmaster manual, available in the same location you retrieved this manual.

Please go to <http://support.businesslink.com/techzone/techzone.htm>, then select the button labeled "Strategi" and select the document titled "Strategi Website Creation and Maintenance".

Downloading and printing this document will provide you with an excellent step-by-step reference guide.

Website Maintenance

Strategi supports the "long filenames" used in Windows '95 +; however, some care must be taken in naming and renaming website files, as discussed below:

Renaming Files in Windows '95/'98/NT

File renaming in Windows '95 (and Windows '98/NT) can double-up extensions, causing Webmaster to appear to lose files on the Webserver.

If an extension is typed in when renaming a file, and "Hide MS-DOS file extensions for file types that are registered" is on (and it is on, by default, in Windows' Explorer "View", "Options", "View"), then the file extension can be doubled up.

Thus, typing in "homepage.htm" (when renaming "xyz.htm") results in "homepage.htm.htm".

Properties on a right-click of the file obey the "Hide" setting, and show just "homepage.htm" as the full name. "File", "Save As" is more intelligent, obeying the known extensions, so keying "homepage.htm" would be acceptable, but "homepage.old" would save as "homepage.old.htm", etc., unless you put it in double-quotes (which you cannot do with the "Rename" command).

It is recommended that, for website development or any work requiring exact file names, Hiding Extensions should be turned off in Windows' Explorer "View", "Options", "View".

Webserver Default Extensions

Strategi defaults to using the file extension “.htm” if no extension is given, or if “.html” is asked for and not found).

For example:

- <http://www.businesslink.com/java77>
- <http://www.businesslink.com/java77.htm>
- <http://www.businesslink.com/java77.html>

all will successfully return the “java77.htm” document.

Specifying the “.htm” is slightly faster, since “java77” and “java.html” would be handled as redirections, adding an extra step to the processing.

If no extension is asked for, and both a directory and a matching “.htm” exist, the .htm will be selected; otherwise directory name requests are unchanged (i.e., if there is a directory “/homepage.htm”, it is returned to the browser, otherwise the homepage in the parent directory is tried).

Appendix 4 – Default Website Setup

Strategi Website

To help you become operational as quickly as possible, we have included a sample website with your Strategi installation. Feel free to use the Strategi webpages as a place to start in constructing your company's own website.

Default Strategi Website Pages

The Strategi website (<http://www.yourcompany.com/homepage>), when initially accessed by an Internet visitor, displays the following screen:

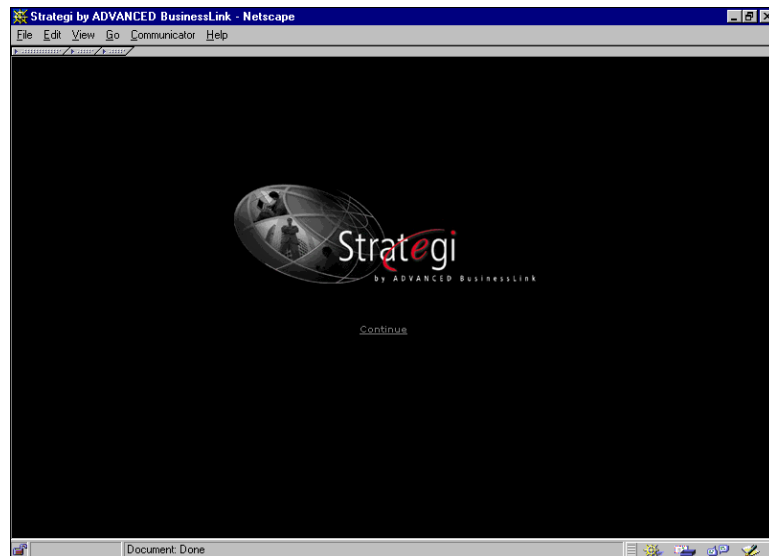


Figure 29, Strategi /HOMEPAGE.HTM

Clicking on the Strategi “globe” logo (or on the “Continue” hyperlink, displays the next screen:



Figure 30, Strategi /RESOURCES/MAIN.HTM Webpage

We have set up the Strategi website in this fashion so that you can change the [/homepage.htm](#) to become your company's website homepage, and can then have a link from there (or from any other appropriate page) to the [/resources/main.htm](#) page displayed immediately above.

From the [/resources/main.htm](#) page, the viewer is given the option of starting Strategi on their PC in one of 2 modes, GUI mode or 5250 emulation mode, selected by clicking on the appropriate button in the right-hand column. This is accomplished by actually having 2 different HTML pages, each of which loads the Strategi applet with the appropriate parameters, set to display the desired GUI ([/basegui.htm](#)) or Text-mode 5250 emulation ([/basetext.htm](#)) screen. Upon loading, the applet displays the following sign on screen:

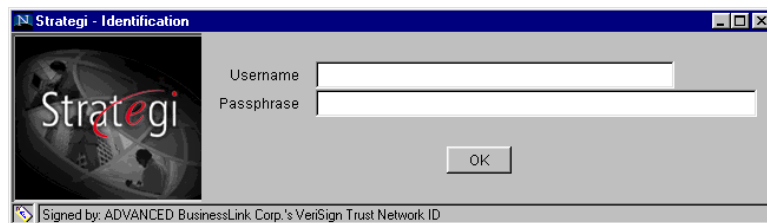


Figure 31, Strategi Applet Sign-On Window

Making Changes to the “/resources” area

The Strategi “/resources” directory/website is completely overwritten when you upgrade Strategi. Therefore, any changes that you made to that area of the site would disappear. It is important, then, if you want to make changes, to create your own copy of resources and make changes in this customized area instead of the main “/resources” site. The following URL:

http://support.businesslink.com/techzone/tsb/tsb_sgi011.htm

describes how to create such a customized version.

Strategi Applet Parameters

Many of Strategi 5250 Emulation Java Applet features are controlled/configured via HTML parameter tags within the page that loads the java applet. This list below details all of the applet tags that can be used with the Strategi Java Applet.

<applet code=”abljem.class” codebase=”/applets” archive=”abljem.zip”>

Required

Description:

applet code: The html start tag and the main java class file required.

codebase: The webserver location for abljem.class and any other .class files (used by MSIE).

archive: The compressed class archive (used by Netscape).

Default Value: Same as example.

<PARAM NAME=allow_132_column VALUE=yes>

Optional

Description: Specifies if the screens viewed in “display objects” will appear in 132-column mode.

Values: Yes or No

Default: Yes

<PARAM NAME=allow_prtbin_dialog_cancel VALUE=yes>

Optional

Description: causes the Cancel button to not appear, and window close to be ignored, on the Binary Print dialog. The default is Yes, consistent with earlier versions.

Setting a value of No makes it harder for users to lose prints, but forces entry of a plausible path in that dialog, which might lead to reports of the applet being locked up if invalid paths are entered, or to session failure if the dialog is left up for too long.

Values: yes or no

Default: yes

<PARAM NAME=applet_link VALUE=""<HSM NAME="applet_link">">

Optional

Description: Used in context with Digital Certificates to auto-login bases on certificate.

Values: The value will be substituted depending on whether the user is logged into the zone with a Digital Certificate.

Default: None

<PARAM NAME=attribute_XX_colors VALUE="###,###,### ; ###,###,###">

Optional

Description: Enables color mapping for the 5250 applet, mapping RGB color values to AS/400 screen color attributes. These PARAMS specify which colors to be used. The XX will be replaced with an attribute number (20 through 3E, eg "attribute_3E_colors").

Limitations: In order for these mappings to take effect, the "input_colors" parameter must be commented out.

Values: RGB format

###,###,### ; ###,###,### = foreground

###,###,### ; ###,###,### = background

Default: normal screen colors

<PARAM NAME=autodelete_binary_prints VALUE=no>

Optional

Description: Specifies whether prtbin files should be automatically deleted as soon as they are delivered to the printer.

Values: yes or no

Default: No

<PARAM NAME=autodelete_URLs_keeping VALUE=0>

Optional

Description: Controls the automatic deletion of old URLs.

Values: Any numeric value

Default: 0 – does not autodelete any files.

<PARAM NAME=autoretrieve_URLs VALUE=yes>

Optional

Description: Controls the automatic retrieval of values.

Values:

Yes: If an item is sent to an out queue, it will automatically open the print.

No: If an item is sent to an out queue, it will stay in the available files window and no action will take place.

Default: Yes

<PARAM NAME=bold_highintensity VALUE=false>

Optional

Description: Changes color mappings to a bold/high intensity setting.

Values: True or False

Default: False

<PARAM NAME=cabbase VALUE="/applets/abljem.cab">

Required

Description: Specifies cab location for MSIE.

Values:

abljem.cab: Loads the applet normally.

abljem.caa: Loads a signed version of the applet.

Default: abljem.cab

<PARAM NAME=Column_separators VALUE="N">

Optional

Description: Specifies how to treat fields with the column separator attribute. Fields with the column separator attribute are by default underlined.

Limitations: Version 1.5.3 and later

Values:

N(none): Provides consistency with earlier versions of Strategi

U (underlined): Underlines column-separated fields.

Dot: Uses small central dots.

Default: N

<PARAM NAME=connection_security VALUE="pass">

Optional

Description: Specifies if a java identification prompt requesting a passphrase will be displayed. If this PARAM is omitted, the AS/400 signon screen will be immediately displayed.

Default: Pass - requests passphrase.

<PARAM NAME=cursor_colors VALUE="###,###,### ; ###,###,###">

Optional

Description: Enables color mapping of the emulation screen cursor.

Limitations: Text Mode Only

Values: RGB format

###,###,### ; ###,###,### = foreground/highlighted text

###,###,### ; ###,###,### = background/block color

Default: White Text on Blue

<PARAM NAME=delete_without_retrieve VALUE=yes>

Optional

Description: Determines if users may delete files before opening them.

Values:

Yes: Users may delete a file before opening it.

No: Users must open a file at least once before they can delete it.

Default: No

<PARAM NAME=disable_keys VALUE=xxxyyyzzz>

Optional

Description: Used to specify keys to be disabled.

Values:

ATN: Disables attention key.

SRQ: Disables System Request key.

PRT: Disables Host Print key.

Default: Commented out. All keys are enabled.

<PARAM NAME=**display_mode** VALUE=**GUI**>

Optional

Description: Determines initial display mode. Overrides user's settings and saved values. Users may toggle with **Alt + Shift + G**.

Default: Whatever is set for the user.

Values:

GUI: User will enter applet in GUI mode.

Text: User will enter applet in Text mode.

<PARAM NAME=**Dup_Character** VALUE=**"x"**>

Optional

Description: Specifies what the Dup Character will be displayed as on the 5250 applet

Values: any character

Default: "#"

<PARAM NAME=**enter_key_action** VALUE=**field_exit**>

Optional

Description: Specifies default enter key behavior.

Values:

field_exit: Enter key acts as field exit (PC enter).

enter: Enter key acts as AS/400 enter.

Default: field_exit

<PARAM NAME=**error_line_colors** VALUE=**"###,###,### ; ###,###,###"**>

Optional

Description: Used to specify error line colors.

Values: RGB format

###,###,### ; ###,###,### = Foreground (text) color

###,###,### ; ###,###,### = Background color

Default: Normal screen colors.

<PARAM NAME=**feedback_line_colors** VALUE=**"###,###,### ; ###,###,###"**>

Optional

Description: Used to specify feedback line colors.

Values: RGB format

###,###,### ; ###,###,### = Foreground (text) color

###,###,### ; ###,###,### = Background color

Default: Normal screen colors.

<PARAM NAME=**filelist_image** VALUE=**"jlogo2.jpg"**>

Optional

Description: Specifies image to be displayed on the left side of the Available Files window.

Default: no picture

<PARAM NAME=**Font_name** VALUE=**"face"**>

Optional

Description: Used to specify font face to be used.

Values: Font face names that java can access. These should be fixed-width.

Default: Courier New

<PARAM NAME=http_tunnel VALUE=fallback>

Optional

Description: Specifies whether to use HTTP tunneling which forces requests for port 43856 to port 80.

Values:

Always: tunnelling will always occur

Fallback: tunnelling will occur if normal 43856 connection fails

Never: tunnelling will never occur

Default: Never

<PARAM NAME=initial_binary_prints VALUE=yes>

Optional

Description: Specifies whether to automatically print prtbin files which are available when the applet loads.

Values: yes or no

Default: No

<PARAM NAME=input_background_color VALUE="###,###,###">

Optional

Description: Specifies what color to use for the input background.

Values: Any color in RGB format.

Default: White

<PARAM NAME=input_colors VALUE="###,###,### ; ###,###,###">

Optional

Alternative to: Input_Background_Color & Input_Text_Color PARAMS

Description: Specifies input box background and foreground colors.

Limitations: GUI Mode Only

Values: RGB format

###,###,### ; ###,###,### = Foreground (text) color

###,###,### ; ###,###,### = Background color

Default: Black Text on White

<PARAM NAME=input_fontsize VALUE=14>

Optional

Description: Specifies font point size to be used in input fields.

Limitations: Needs to be 2 points smaller than the screen_font_size.

Values: Any point size. (8-14 recommended)

Default: 11

<PARAM NAME=input_text_color VALUE="###,###,###">

Optional

Description: Determines what color to use for the input text.

Values: Any color in RGB format.

Default: Black

<PARAM NAME=login_image VALUE="jlogo.jpg">

Optional

Description: Specifies image to be displayed on the left side of the name/passphrase applet window.

Default: no picture

<PARAM NAME=login_passphrase_prompt VALUE="Pass:">

Optional

Description: Identification login window passphrase prompt.

Default: Passphrase

<PARAM NAME=login_user_prompt VALUE="User:">

Optional

Description: Identification login window user name prompt.

Default: Name

<PARAM NAME=option_button_image VALUE="button.gif">

Optional

Description: Used to specify the "clickable" button image to be placed next to item numbers in GUI mode.

Default: No buttons on menu items.

<PARAM NAME=plus_field_exit VALUE="no">

Optional

Description: Specifies whether or not the Numeric Keypad Plus key will be action key-exit or not.

Values: Yes or No

Default: No

<PARAM NAME=product_title VALUE="product title">

Optional

Description: Title to be displayed at the top of the login applet window.

Values: Any title you would like to specify to be shown.

Default: Strategi - Identification

<PARAM NAME=screen_background_color VALUE="###,###,###">

Optional

Description: Specifies what color to use for the screen background.

Values: Any color in RGB format.

Default: White

<PARAM NAME=screen_colors VALUE="###,###,### ; ###,###,###">

Optional

Alternative To: Screen_Background_Color & Screen_Text_Color PARAMS

Description: Specifies colors to be used for foreground and background.

Limitations: Applies to GUI mode only.

Values: RGB format

###,###,### ; ###,###,### = Foreground (text) color

###,###,### ; ###,###,### = Background color

Default: Dark Grey Text On White

<PARAM NAME=screen_fontsize VALUE=10>

Optional

Description: Species font point size to be used.

Values: Any point size (10-16 are recommended)

Default: 13

<PARAM NAME=screen_text_color VALUE="###,###,###">

Optional

Description: Specifies what color to be used for screen text.

Values: Any color in RGB format.

Default: Dark Gray

<PARAM NAME=textmode_buttons VALUE=no>

Optional

Description: Determines if text mode buttons are active.

Values: Yes or No

Default: No

<PARAM NAME=textmode_error_line_colors VALUE="###,###,###">

Optional

Description: Specifies what colors to use for error lines in text mode.

Values: Any color in RGB format.

Default: Normal screen colors.

<PARAM NAME=textmode_feedback_line_colors VALUE="###,###,###">

Optional

Description: Specifies what colors to use for the feedback line when in text mode.

Values: Any color in RGB format.

Default: Normal screen colors.

<PARAM NAME=tunnel_URL_vary VALUE=false>

Optional

Description: Specifies specific behavior of HTTP tunneling with respect to caching screens.

Values:

True: Makes each tunneled HTTP request different (by having a varying random number on each), which causes IE to locally cache every screen. Could be valuable if an intermediate proxy, etc. was wrongly caching requests for the fixed tunneling URL.

False: Causes IE to cache only the latest screen.

Default: False

<HSM NAME=user_agent VALUE="useragt"></hsm>

Required

Description: Used to identify client browser for proper field alignment.

Values: useragt

Default: useragt

<PARAM NAME="user_agent" VALUE="usragt"> <! need ">

Required

Description:

Used to identify client browser for proper field alignment.

HSM start tag; replaces "useragt" with browser's identification tag.

Values: User_agent will be replaced with the user agent string that represents what browser the user is using.

Default: useragt

<PARAM NAME=window_title VALUE="title">

Optional

Description: Used to specify title to appear at the top of the browser window.

Values: Any desired title.

Default: "BusinessLink for Java – AS/400 Session (###)"

Substitute domain name for ###

</APPLET>

Required

Description: Applet end tag.

Appendix 5– Troubleshooting Strategi Connections

“Unable to make TCP/IP connection”

Cause

The user is attempting access from behind a firewall that is blocking the connection, or the applet cannot communicate on port 43856 due to improper workstation TCP/IP setup.

Solution

Open port 43856 to allow both inbound and outbound traffic and verify that TCP/IP is correctly configured on the workstation. In some network environments, workstations must be configured to use a Winsock proxy client. Most HTTP proxies do not provide the TCP/IP support required of the applet.

Detail

Many network administrators are concerned about opening ports above 1024 to incoming traffic, for fear of attempts at unauthorized access to their system. There is, however, a solution which severely restricts access on those ports, by limiting access to a specific IP address (in this case, the IP address of the AS/400). This solution is called "filtering by address". Filtering by address lets you restrict the flow of packets based on the source and/or destination addresses of the packets, without having to consider what protocols are involved. Such filtering can be used to allow certain external hosts (such as the Strategi Webserver) to talk to certain internal hosts (your network), and to prevent an outsider from injecting "forged" packets (packets handcrafted so they appear to come from somewhere other than their true source) into your network. (An excellent discussion of this can be found in the book "Building Internet Firewalls" by D. Brent Chapman and Elizabeth D. Zwickey, O'Reilly and Associates, Inc.)

Com.ms.applet.applet.security.exception

The following message is displayed on the status bar and/or Java console when the applet attempts to start: "Exception: Com.ms.applet.applet.security.exception: could not resolve IP for Host [xxx.xxx.xxx.xxx] see the trust proxy prop".

Cause

MSIE 3.02 bug regarding communications operations performed by Java applets back to hosts.

Solution

Use any version of Netscape 3.0+ or MSIE 4.0+.

Cannot retrieve files in 'available files' window.

Cause

The user is attempting to retrieve files from the "Available Files" list without the browser window being on top and visible.

Solution

Make sure the HTML page which launched the applet is on top of any other open applications; the easiest way to do this is by minimizing all other open windows.

Security Exception

Netscape states a security exception has occurred (displayed on the status bar or in the Java console).

Cause

When the applet attempts to establish a socket connection back to the host, Netscape's browser will first perform a DNS lookup to prevent certain "spoofing" attacks. If the DNS lookup fails, the browser will state a security exception in the Java console and the applet will terminate. Netscape has decided that a failed DNS lookup presents a security threat, and applets loaded via a proxy can no longer even connect back to their home webserver unless navigator can successfully do a DNS lookup.

Solution

There are 3 possible solutions to this problem:

- Reconfigure firewall to proxy DNS
- Use a different browser
- Reconfigure Navigator to trust the proxy

The least complex of the three options is to reconfigure Navigator to trust the proxy by manually editing the Netscape preferences file. On Windows 95/98 and NT platforms, the Netscape preferences file should be in the following location:

Program Files\Netscape\Users\<user name>\prefs.js

Be sure to edit this file only while all instances of Netscape are shut down, as Netscape will overwrite prefs.js when it exits.

To enable the 'trust proxy' preference, add the following line to the end of the file:

```
user_pref("security.lower_java_network_security_by_trusting_proxies", true);
```

Once the file has been saved, starting Netscape will now load this preference and allow the applet to function properly through proxy connections.

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