

Time for a Change: An Overview of the Next Generation of IBM i Access

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Tuesday, February 19th, 2013

The Omni User – February Dinner Meeting

ibm.com/power

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Agenda

➔ Background

- **System Configurations**
- **Feature overview**
 - Console
 - Data Transfer
 - 5250 Emulation
 - Printer Output
 - Shell commands
- **5250 Emulation: value-added features**
- **Custom deployment and configuration**
 - Launching
 - Deployment



- **The r7.1 IBM i Access Family of Products**

- IBM i Access for Windows (5770XE1)
 - Client Access
 - Most mature and widely used product
 - System i Navigator
 - 5250 Display and Printer Emulation
 - Data Transfer
 - Operations Console & Virtual Control Panel
 - Data Access Providers
 - Remote Command
 - Print Drivers
- IBM i Access for Web (5770XH2)
 - IBM i System Hosted HTML based web product
 - Very robust capability that has been well received
 - 5250 Display
 - Print Access
 - Database Access
 - Integrated File System Access
 - Commands
 - Jobs
- IBM i Access for Linux (5770XL1)
 - Lightly embraced product specifically for Linux RPM Operating Systems
 - ODBC provider
 - 5250 Display
 - Remote Command

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- **In July 2012 IBM Announced the Technology Preview of a brand new Client Product member of the IBM i Access Family**
- **IBM i Access Client Solutions (5733XJ1)**
 - Consolidates commonly used tasks for managing your IBM i into one simplified location
 - The core of the product is a Java client that is not platform specific.
 - Runs on most full featured client/server Operating Systems that support Java 6.0 or higher such as most versions of Windows, Macintosh, Linux, and IBM i.
 - Same deployment, configuration, settings, problem determination across all platforms.

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- **Approximate 20 customer closed Beta providing feedback and reporting problems until the beginning of June, 2012.**
- **Open Technology Preview of the core client features available July 2, 2012**
 - Anyone can download the client product
 - Uses current IBM i Access Family licenses
 - IBM i OS SWMA contract for problem reporting

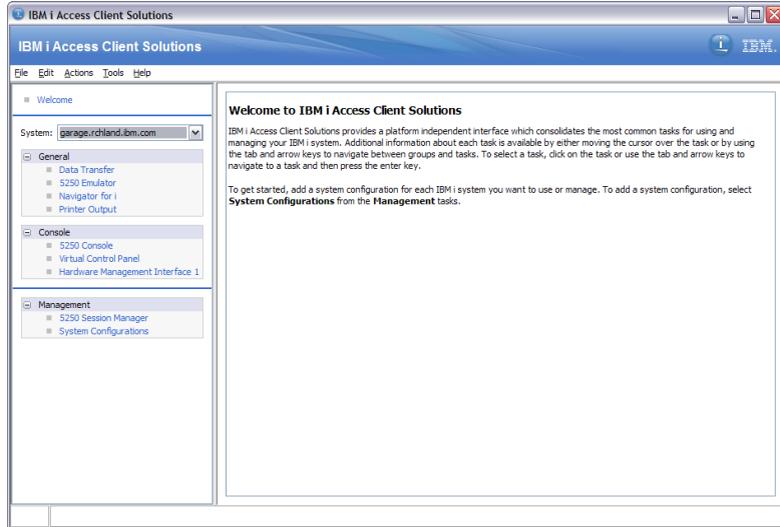
 - <http://www-03.ibm.com/systems/power/software/i/access/solutions.html>

- **An update to the Technology Preview was released the end of October.**

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 - Deployment
 - Using the “autoimport” feature

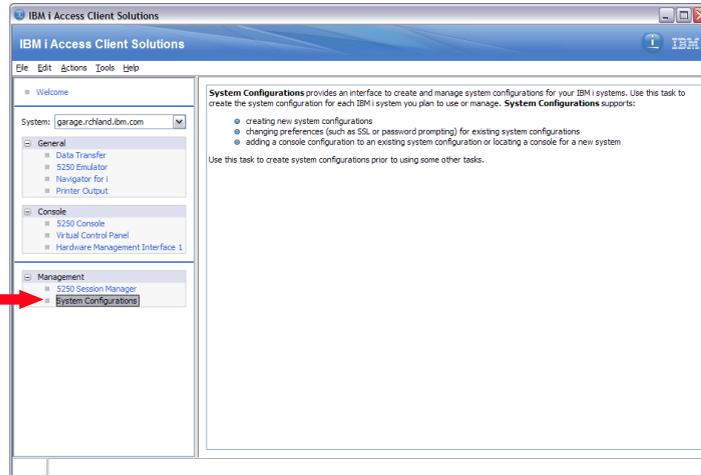
- Easy-to-use launch point for features
- Extensible for the future



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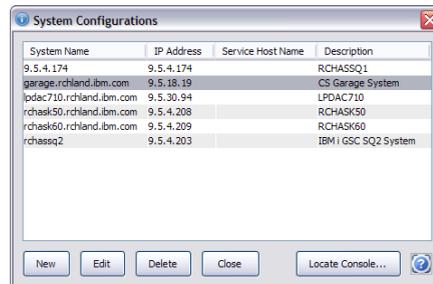
- Use the System Configurations panel to store connection information on the IBM i Systems that will be used



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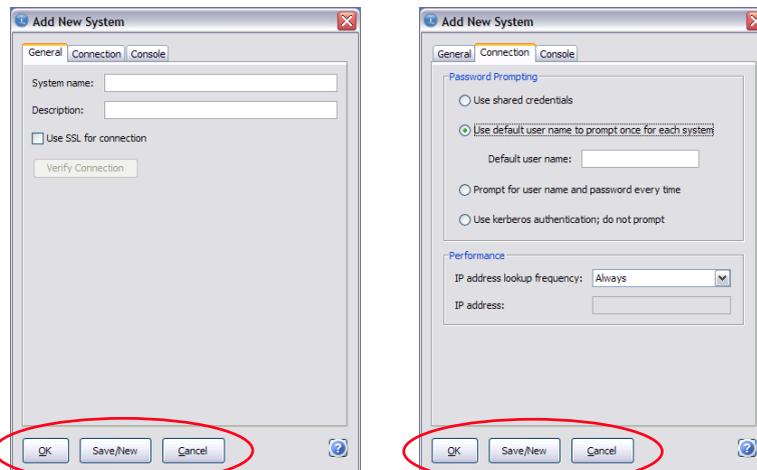
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- **Create, Edit or Delete connection information for IBM i Systems that are used.**
 - System Name: What is entered by the user to connect to for this host
 - IP Address: What the PC's DNS environment last returned when connecting to the System Name
 - Service Host Name: The System's Console host name or IP address as configured
 - Description: Defined by the user when created



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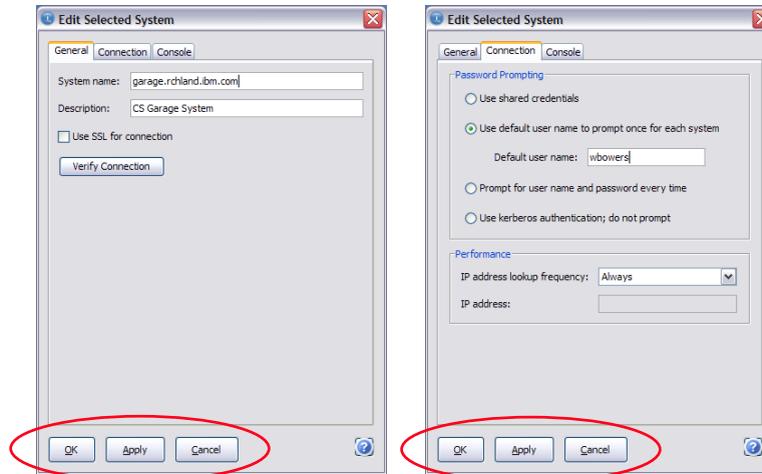
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- **OK** - Saves the information entered and closes the panel
- **Save/New** - Saves the information entered and clears the panel
- **Cancel** - Closes the panel without saving anything

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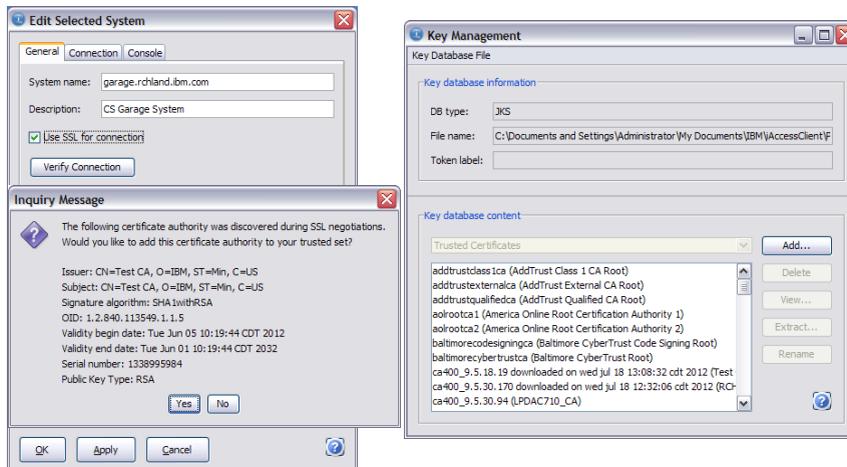
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- **OK** - Saves the information changed and closes the panel
- **Apply** - Saves the information entered and the panel remains
- **Cancel** - Closes the panel without saving anything not saved

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- **Use SSL** specifies that the connection will be secured
- If the **Certificate Authority** negotiated is not trusted, the user will be prompted to add to trusted list
- There still is a **Key Management** utility if needed

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Agenda

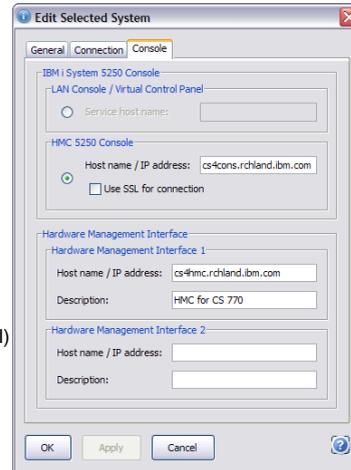
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Console



- **Console information is configured in the System Configuration panel**

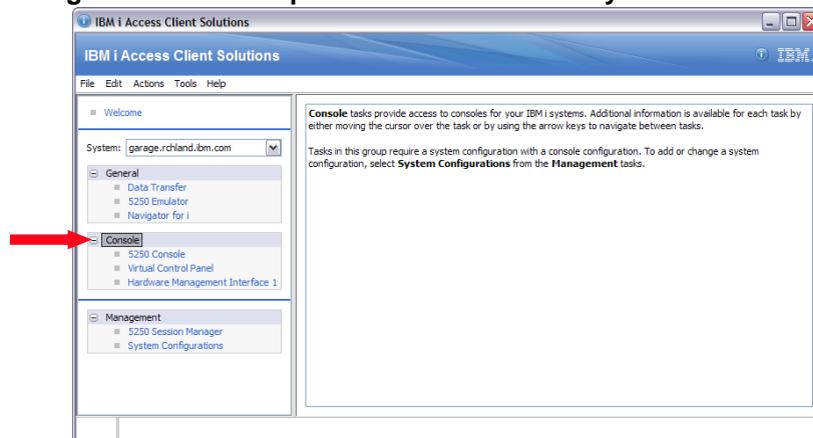
- Lan Console / Virtual Control Panel
 - Service Host Name
- HMC 5250 Console
 - Host Name or IP Address to the HMC 5250 Proxy interface
 - Supports SSL
- Hardware Management Interfaces
 - Host name or IP address
 - Can append a port to the name or address
 - x.x.x.x:port
 - Description
 - Examples of management interfaces
 - Advanced System Management Interface (ASMI)
 - Integrated Virtualization Manager (IVM)
 - Hardware Management Console (HMC)



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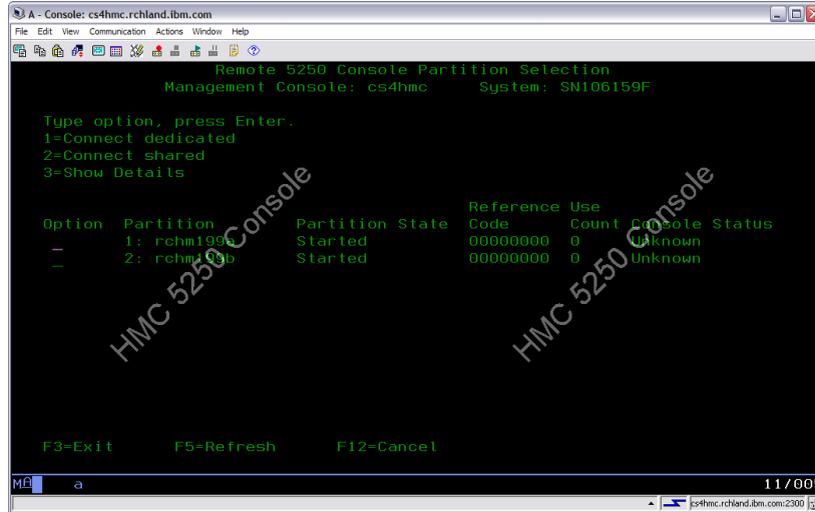
- **5250 Console – Opens a interactive console to the current System**
- **Virtual Control Panel – Opens a Virtual Control Panel if Lan Console is used for the current System**
- **Hardware Management Interface 1 – Opens a web browser to the management console specified for the current System**



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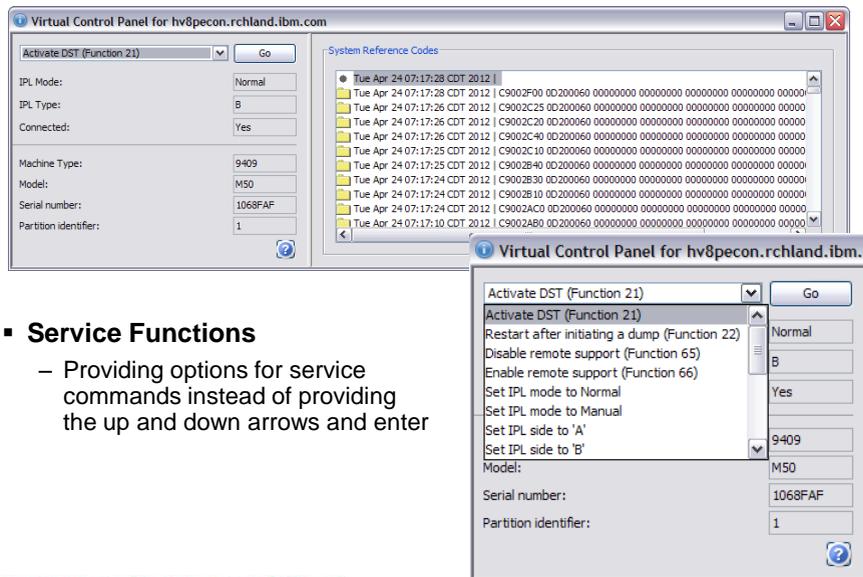
5250 HMC Console



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Virtual Control Panel



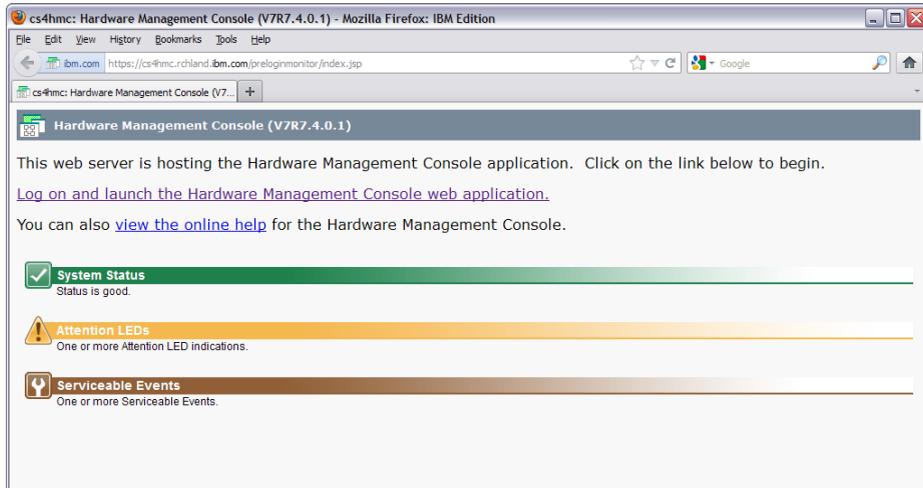
Service Functions

- Providing options for service commands instead of providing the up and down arrows and enter

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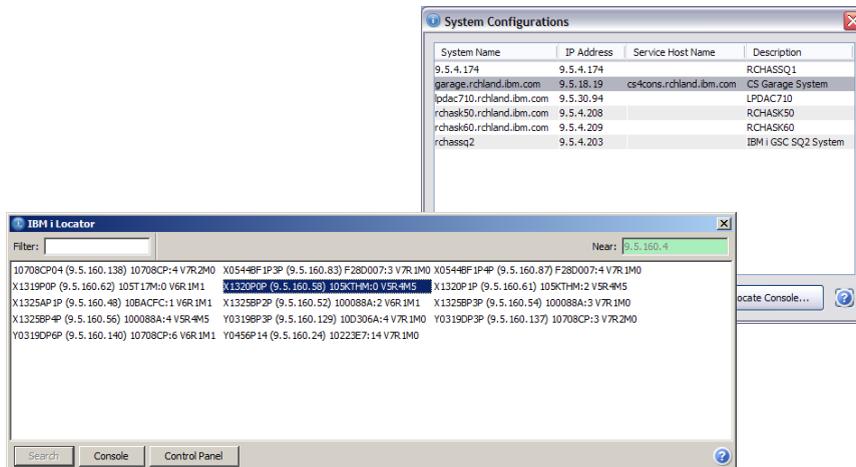
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▪ HMC Pre-Login Monitor



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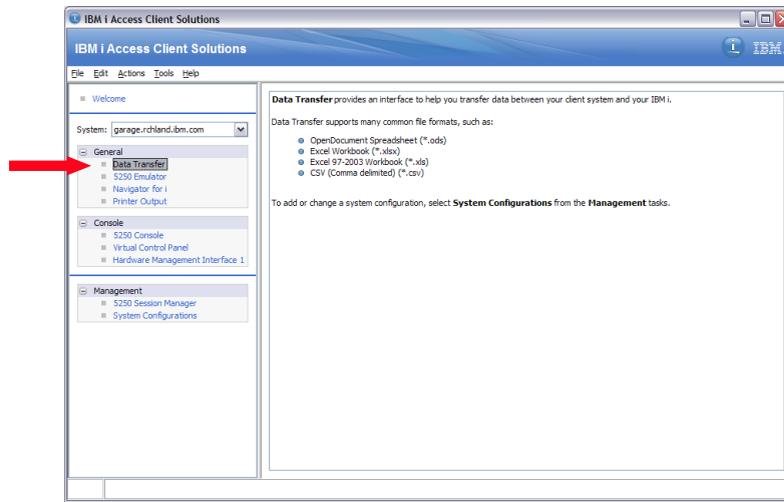
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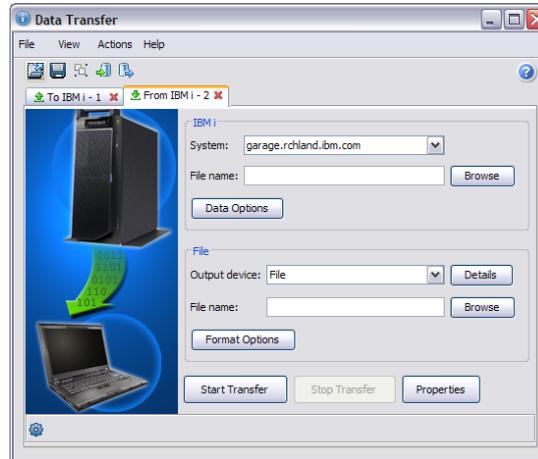
- **Select the Data Transfer option**
 - Will default to the current System



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- **Displays the Data Transfer interaction panel**
 - Starts out with a Data Transfer to IBM i and Data Transfer from IBM i tab to the current System on the main panel



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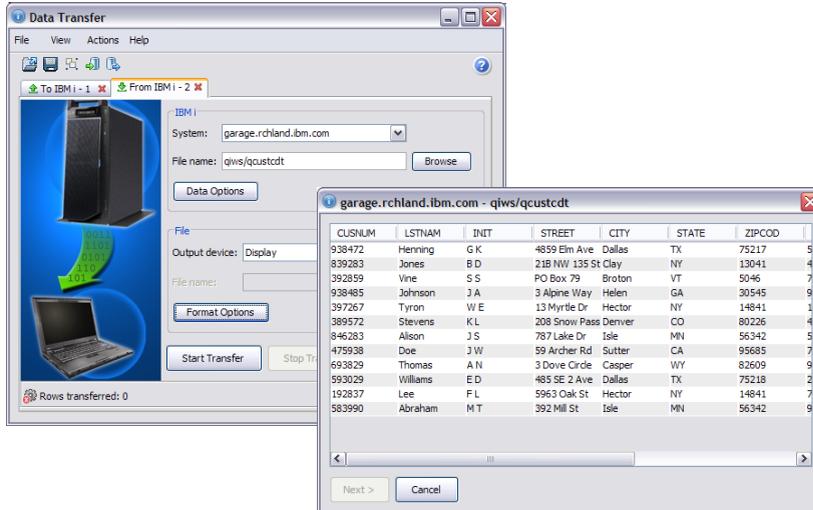
- **Data Transfer interaction panel**
 - All active Data Transfer requests are displayed in a tab on this panel
 - Open Saved Requests
 - Save Requests
 - Create IBM i Files
 - Data Transfer Migration



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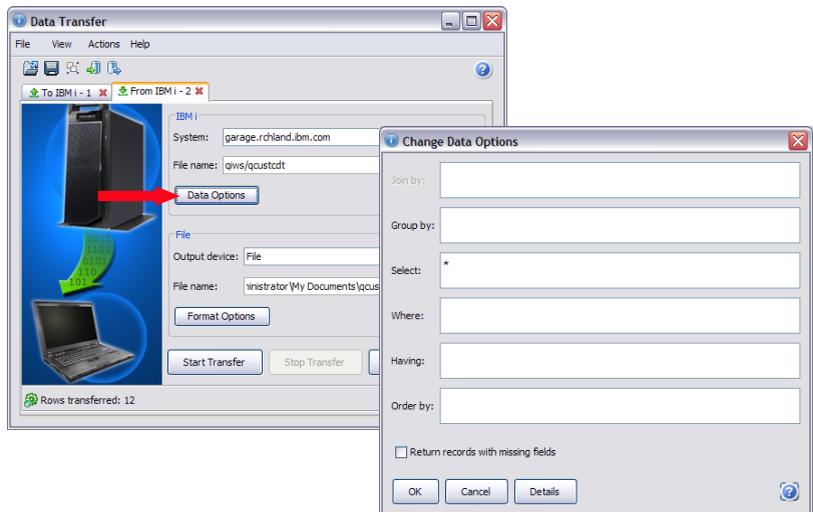
- Data Transfer to Display



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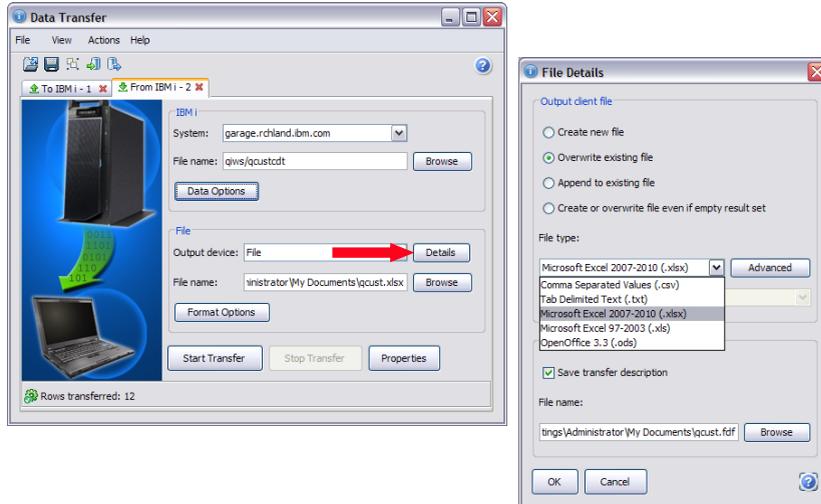
- Data Options
 - Query options to narrow data results



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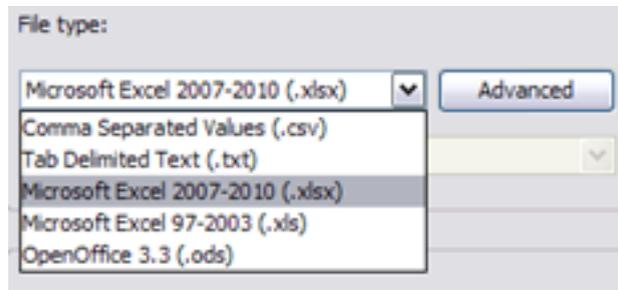
File Details



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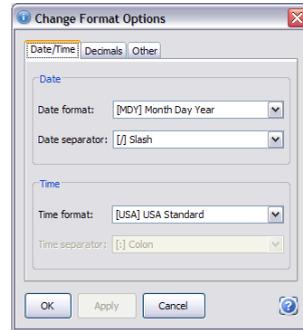
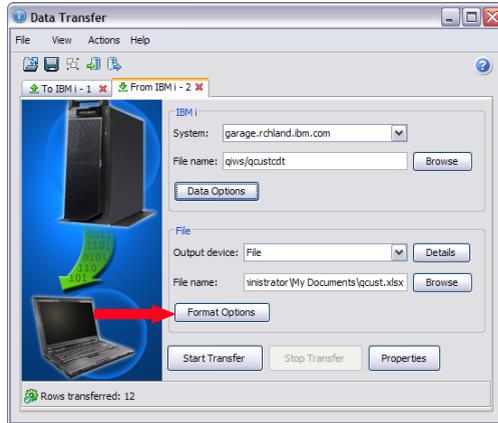
File Types



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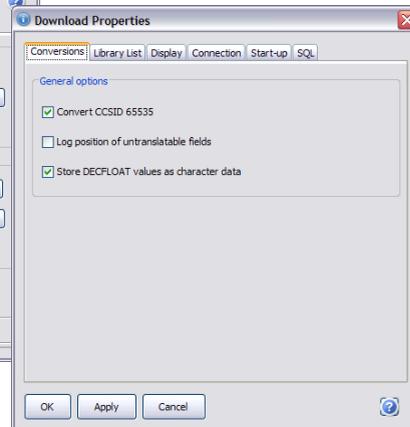
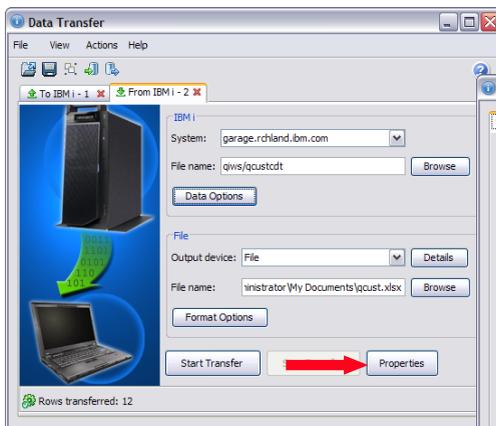
▪ Format Options



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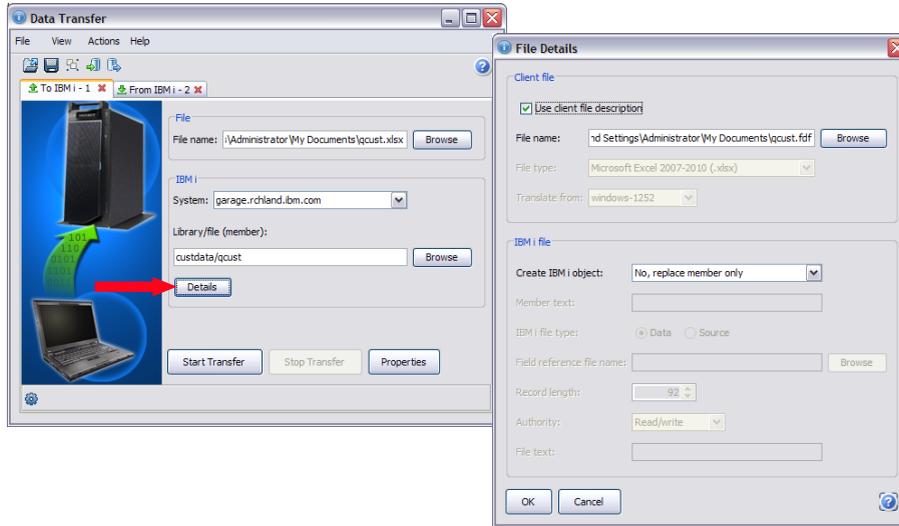
▪ Properties



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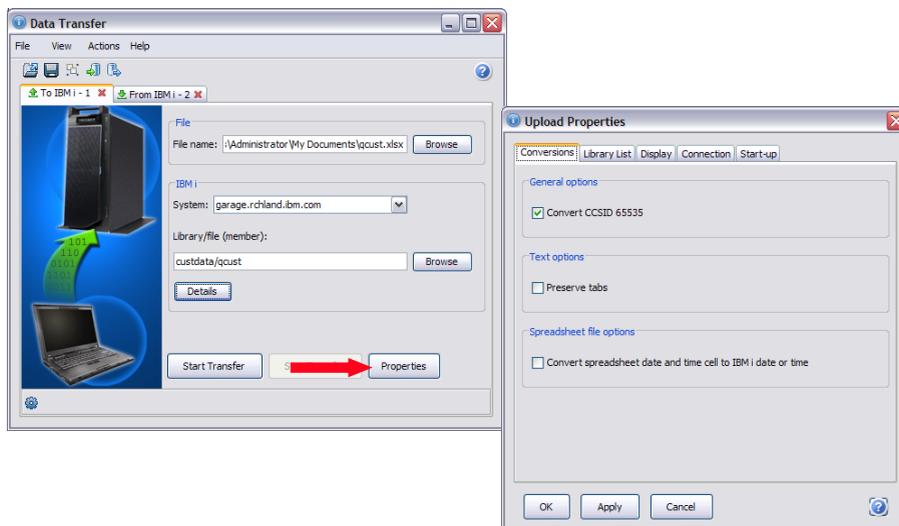
File Details



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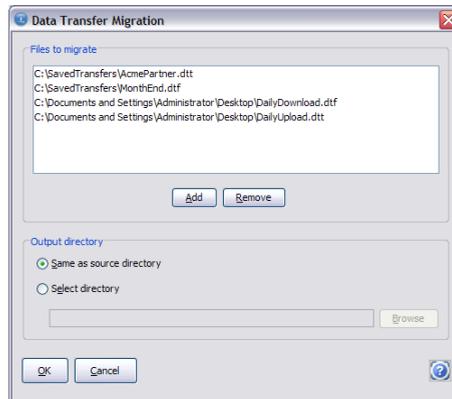
Properties



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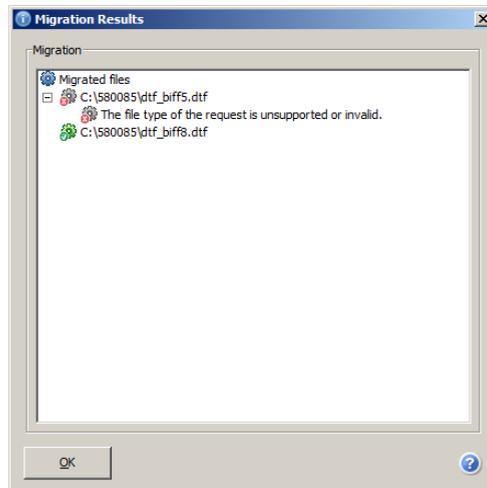
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- **Access for Windows Data Transfer saved request migration**
 - Migrate saved .dtt and .dtf files to IBM i Access Client Solutions .dttx and .dtfx files



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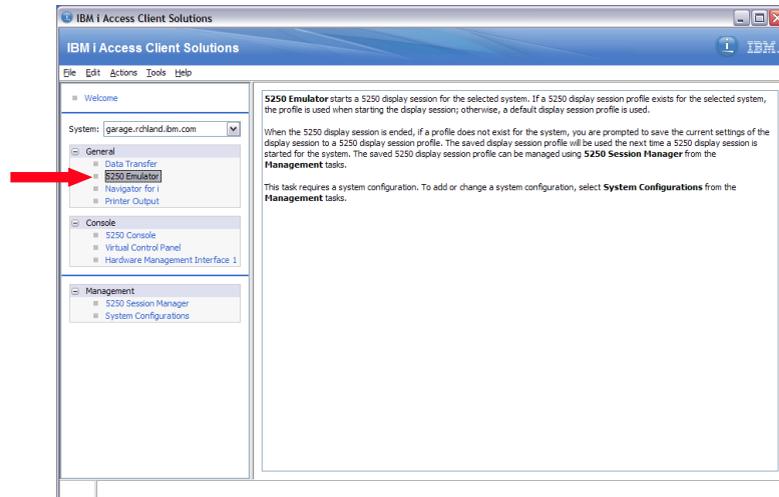
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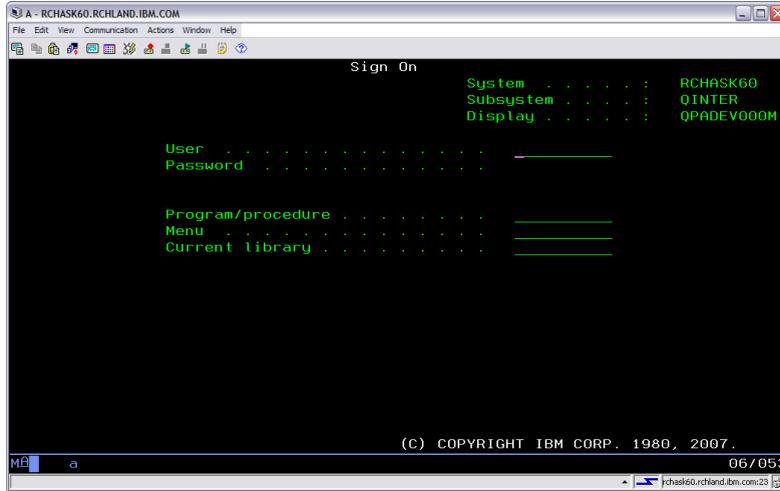
- Opens an IBM Rational Host On Demand 5250 Telnet session to the current System



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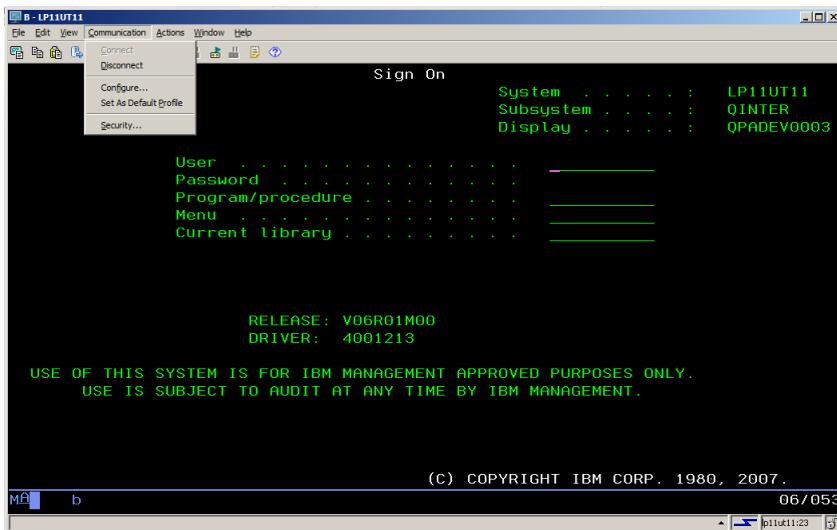
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- Provides nearly identical interaction, look and feel to the Access for Windows PC5250 emulator



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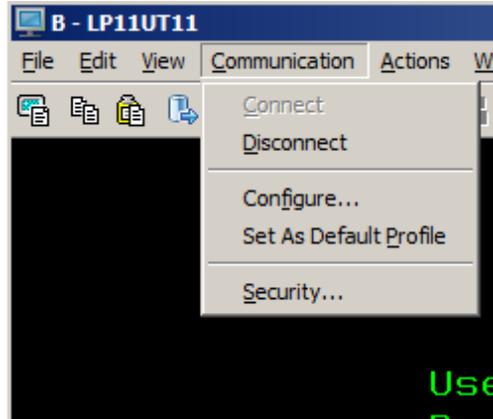
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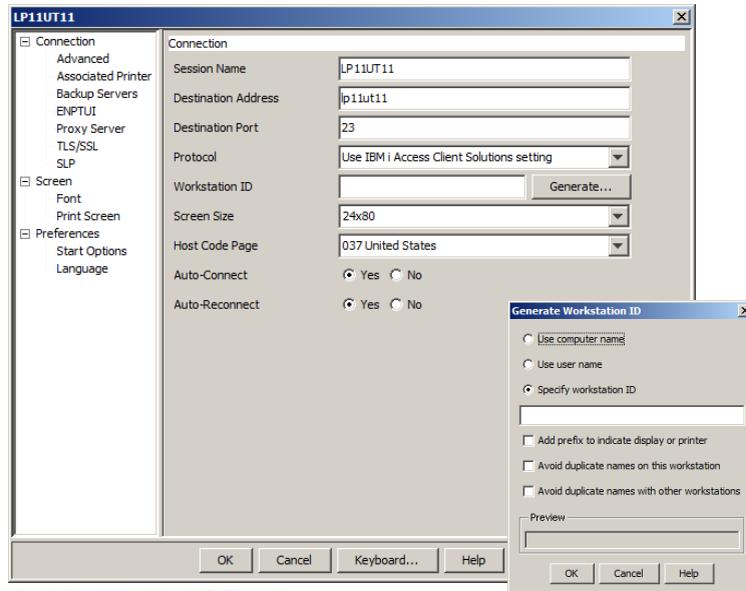
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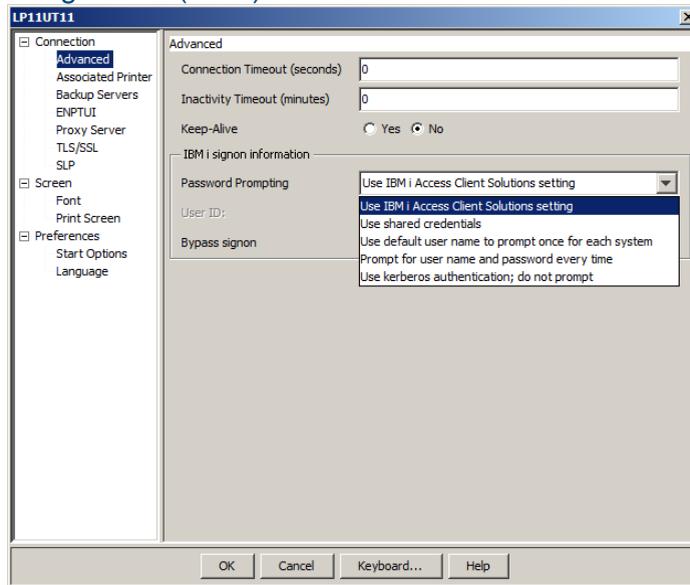
5250: Configuration (cont.)



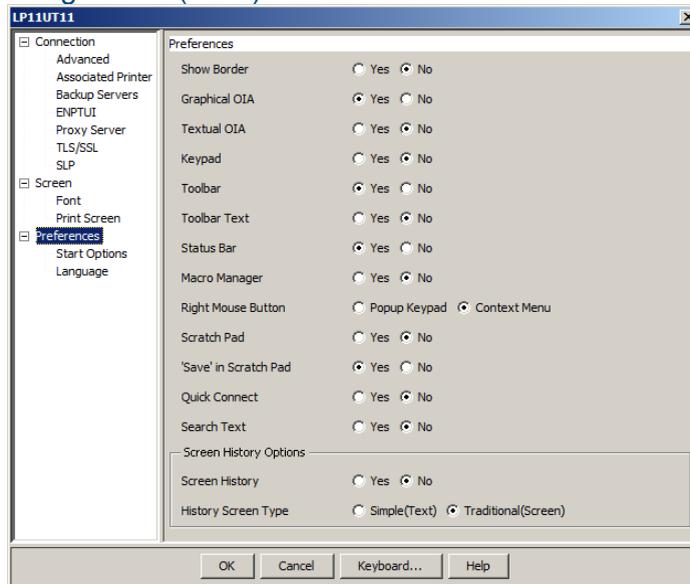
5250: Configuration (cont.)



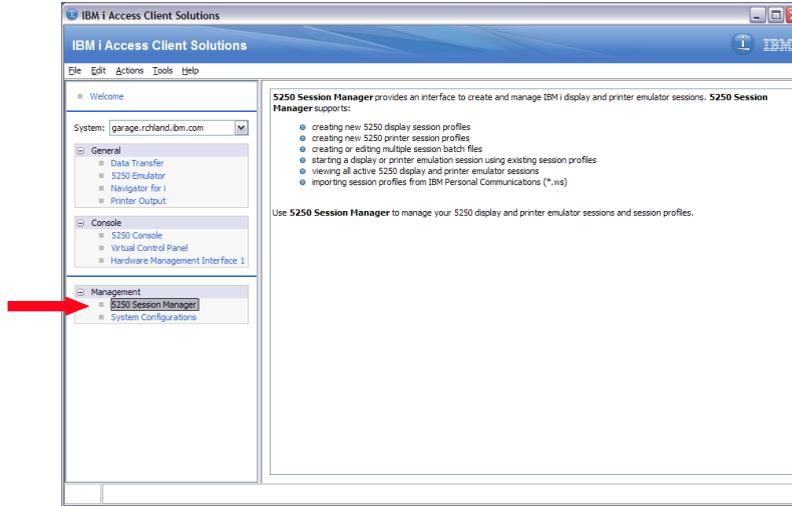
5250: Configuration (cont.)



5250: Configuration (cont.)



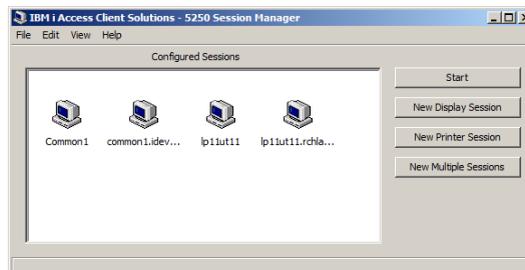
▪ 5250 Session Manager



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5250 Emulation: session manager



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Print Emulation

- Printer emulation is currently basic (compared to PC5250).
- Enhancements planned

The screenshot displays the IBM 5250 Printer software interface. At the top, a window titled 'A - 5250 Printer' shows the connection status: Host Name: lp11ut11, Session: **Connected**, Print Job: **Printing**, Device status: **Printing**, and Printer: \\192.168.1.3\Canon MP250 series Printer. Below this, two configuration windows are visible. The left window, '5250 Printer', shows connection details: Session Name (5250 Printer), Destination Address, Destination Port (23), Protocol (Telnet), Workstation ID, Host Code Page (037 United States), Auto-Connect (Yes), and Auto-Reconnect (Yes). The right window, '5250 Printer', shows printer setup options: Print to (Windows Printer), Choose Windows Printer (Use Default), Windows Printer Name (\\192.168.1.3\Canon MP250 series Printer), and Print-to-File options (Separate Files: Yes, File Path and Name, Printer Name: PTL, Printer Manufacturer: IBM, Printer Model: IBM 4201-1 Proprinter, Paper Size (Source 1) and (Source 2): Default, Envelope Size: Default, ASCII Code Page 899: No, Inactivity Time (secs): 10).

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5250 Emulation Sessions

- IBM i Access Client Solutions 5250 Emulation sessions are saved as .hod files
 - Access for Windows PC5250 .ws files can be imported into .hod files
 - .hod files can also be saved outside of the Session Manager
 - Need to setup a file association in the PC Operating System to run the file and have it open the emulator

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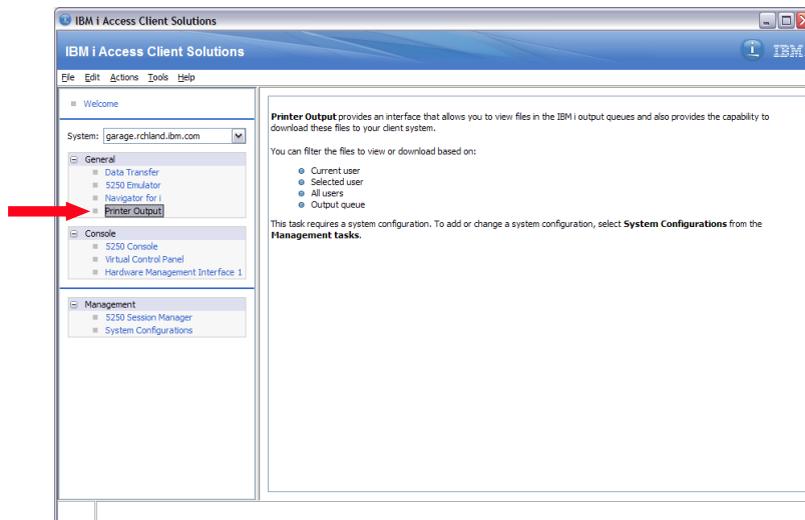
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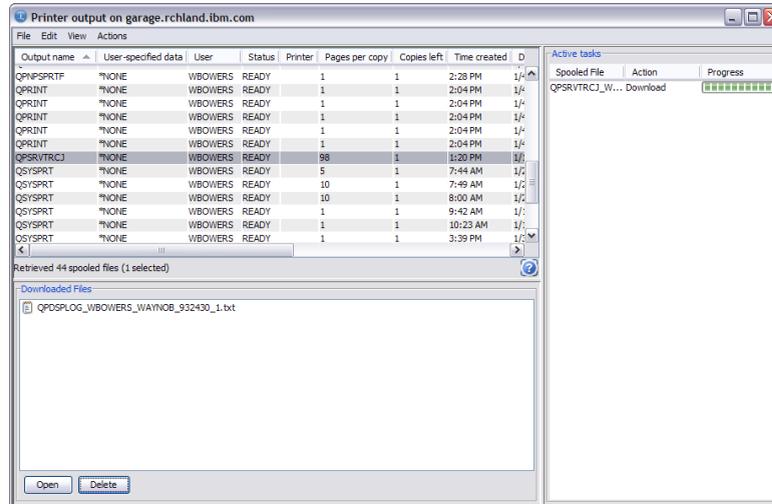
- Lists and allows interaction with the printed output on the IBM i OS System for the authenticated user.



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- **Printer Output user interface**
 - Allows the user to view, and download spooled files.



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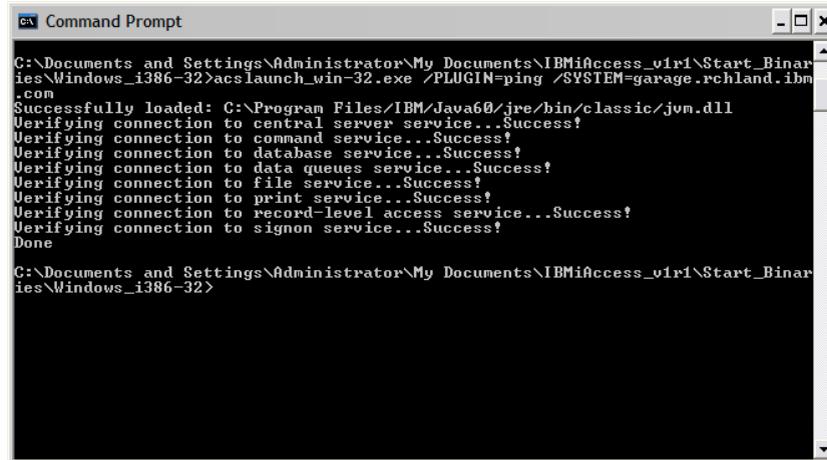
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- **IBM i Access Client Solutions provides several shell or command line utilities that can be used outside of the graphical user interfaces**
 - Backup
 - Saves the client configuration to file
 - Restore
 - Restores the client configuration from file
 - Cfg
 - Creates system configuration
 - Dump
 - Requests all running client processes to write service information
 - Medic
 - Packages the existing logs and dumps
 - Log
 - Sets the client logging level
 - Logon
 - Manages user id and password caching

- **Shell Commands.....**
 - Props
 - Opens the Edit -> Preferences panel
 - Maint
 - Maintenance options
 - Ping
 - IBM i Access Client Solutions connection verification
 - Sm
 - Opens 5250 session manager
 - 5250
 - Opens 5250 display session
 - DTGui
 - Opens Data Transfer interaction panel
 - Download
 - Runs a previously saved data transfer download .dtfx
 - CLDownload
 - Runs a data transfer download without a .dtfx
 - Upload
 - Runs a previously saved data transfer upload .dttx

- Shell Command Ping example



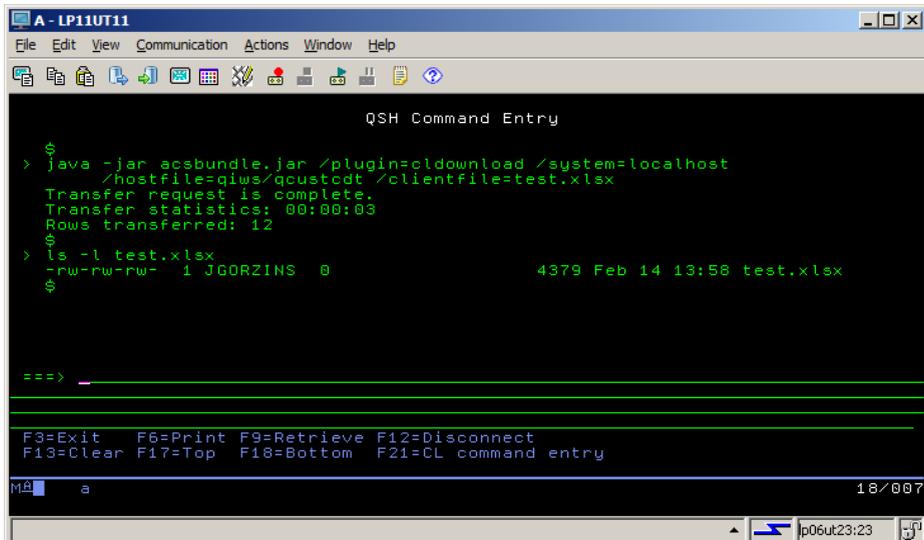
```

C:\Documents and Settings\Administrator\My Documents\IBMiAccess_v1r1\Start_Binaries\Windows_i386-32>acslaunch_win-32.exe /PLUGIN=ping /SYSTEM=garage.rchland.ibm.com
Successfully loaded: C:\Program Files\IBM\Java60\jre\bin\classic\jvm.dll
Verifying connection to central server service...Success!
Verifying connection to command service...Success!
Verifying connection to database service...Success!
Verifying connection to data queues service...Success!
Verifying connection to file service...Success!
Verifying connection to print service...Success!
Verifying connection to record-level access service...Success!
Verifying connection to signon service...Success!
Done
C:\Documents and Settings\Administrator\My Documents\IBMiAccess_v1r1\Start_Binaries\Windows_i386-32>
  
```

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- Shell command CLDownload example, on IBM i
- Note: no login needed!!



```

QSH Command Entry

> java -jar acsbundle.jar /plugin=cldownload /system=localhost
   /hostfile=qiuw/qcustcdt /clientfile=test.xlsx
Transfer request is complete.
Transfer statistics: 00:00:03
Rows transferred: 12
$
> ls -l test.xlsx
-rw-rw-rw- 1 JGORZINS 0          4379 Feb 14 13:58 test.xlsx
$

===> _____

F3=Exit   F6=Print  F9=Retrieve F12=Disconnect
F13=Clear F17=Top   F18=Bottom F21=CL command entry

MA a 18/007
  
```



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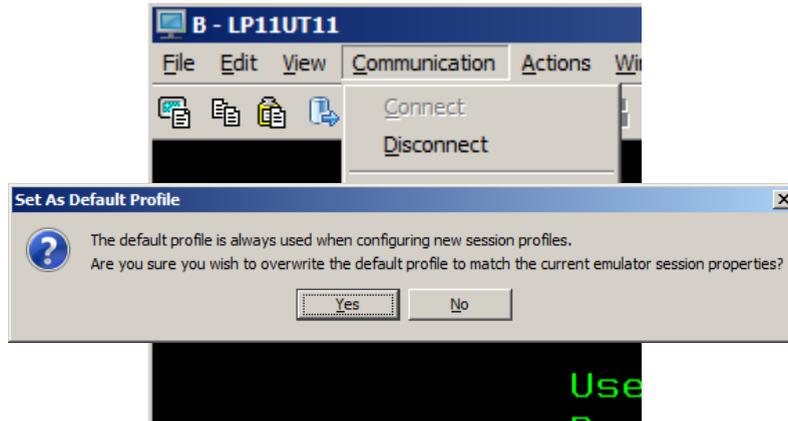
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Agenda

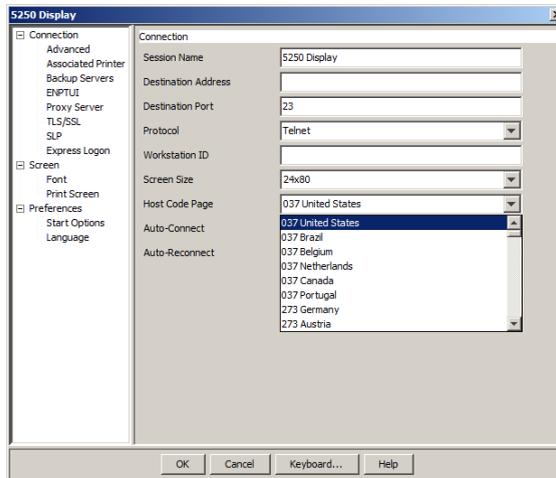
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Default Profile Feature



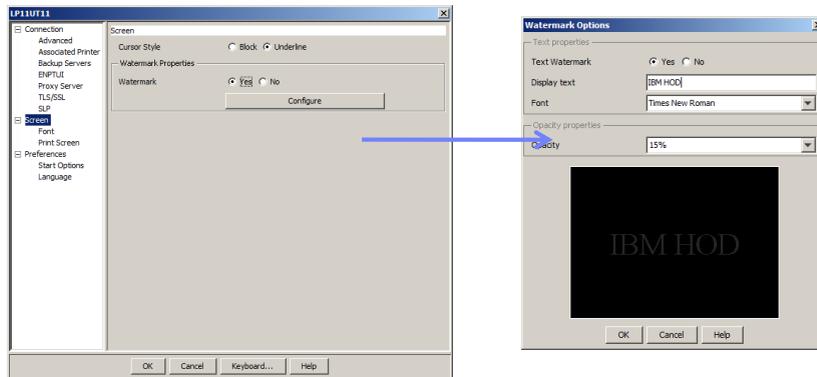
Simplified host codepage support

- To change host codepage, one simply needs to choose it from the dropdown:

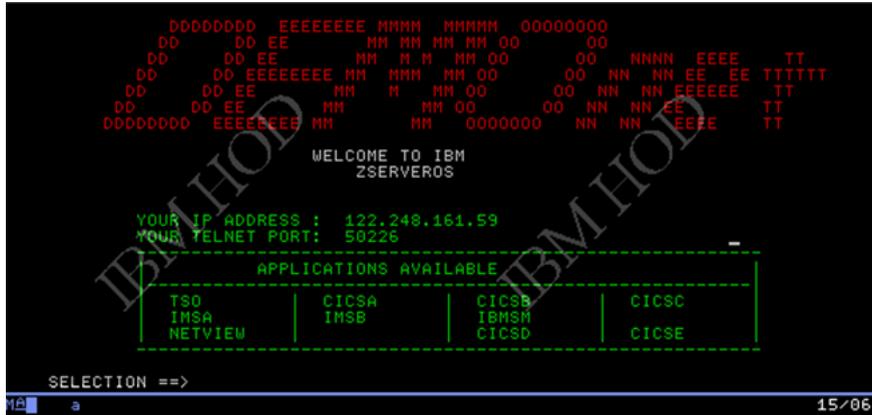


Watermarks

Watermark Configuration



Text Watermark

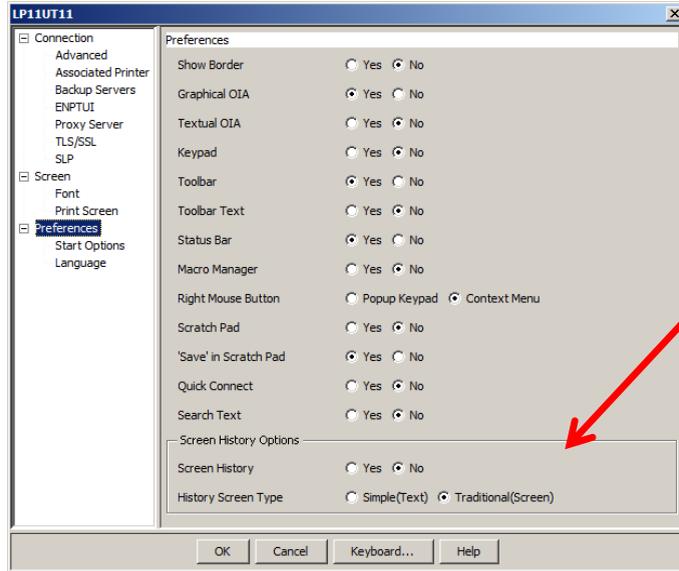


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Screen history

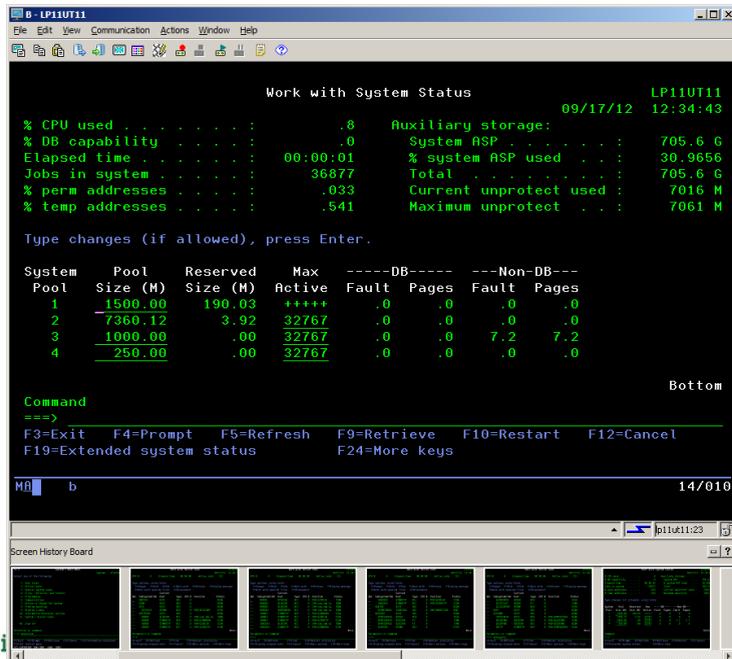
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Configuration



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History Screen

- When clicked on a thumbnail, a new window would pop-up showing the contents of the navigated screen (history screen)
- One can also navigate the other history screens (if any) from a history screen, by using the next and previous button on it

Screen History-LP11UT11- B

◀ History Screen 5 ▶

Work with All Spooled Files

Type options, press Enter.
 1=Send 2=Change 3=Hold 4=Delete 5=Display 6=Release 7=Messages
 8=Attributes 9=Work with printing status

Opt	File	User	Device or Queue	User Data	Sts	Total Pages	Cur Page	Copy
—	QPJOBLOG	J60RZINS	PRT01	QPADEV000D	RDY	2	2	1
—	QPJOBLOG	J60RZINS	PRT01	QPADEV000D	RDY	2	2	1
—	QPJOBLOG	J60RZINS	PRT01	QZSHSH	RDY	1	1	1
—	QPJOBLOG	J60RZINS	PRT01	QPADEV000F	RDY	2	2	1
—	QPJOBLOG	J60RZINS	PRT01	QZSHSH	RDY	1	1	1
—	QPJOBLOG	J60RZINS	PRT01	QPADEV000D	RDY	3	3	1
—	QPJOBLOG	J60RZINS	PRT01	QPADEV000H	RDY	3	3	1
—	VERIFY	J60RZINS	PRT01	RDY	RDY	6	6	1
—	QPJOBLOG	J60RZINS	PRT01	QPADEV000J	RDY	2	2	1

More...

Parameters for options 1, 2, 3 or command
 ==>

F3=Exit F10=View 4 F11=View 2 F12=Cancel F22=Printers F24=More keys

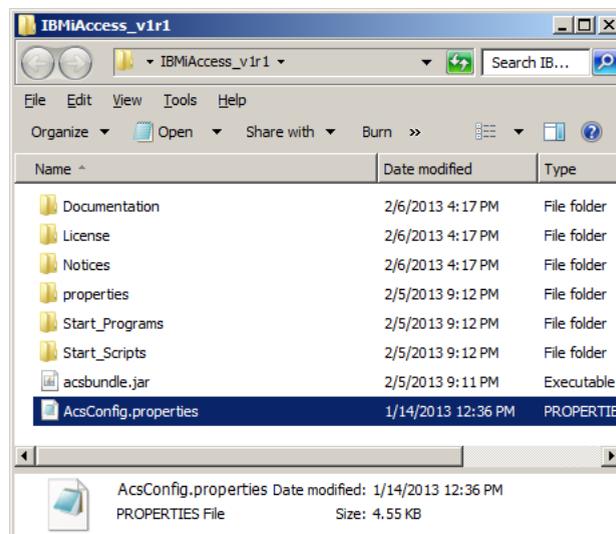
Notes

- Watermarks, Hotspots, Host graphics not available
- Keeps 15 screens

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What you get in the package



Ways you can launch

1. Command line
"java -jar acsbundle.jar"
2. Double click acsbundle.jar
3. Binary launcher (preferred)



Deployment: initial questions

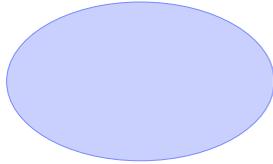
- When thinking about deployment, ask yourself where you want to put:

1. the product image? (jar file)

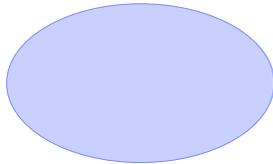
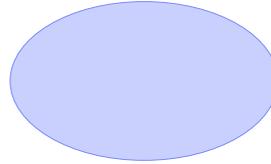
2. the user's settings?
(system configurations,
5250 sessions, etc.)

Deployment: What might be our options?

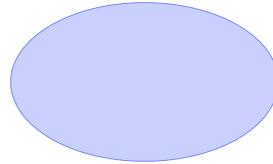
Computer (local)



USB Thumb Drive



Network Share



Intranet (http:// URL)

Where can I put the image (jar file)?

Any filesystem (local, USB drive, network)

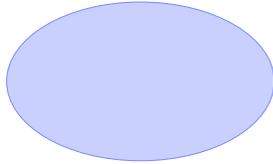
or

Intranet link (http:// or https://)

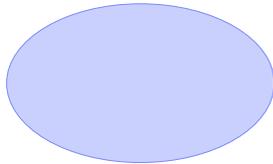
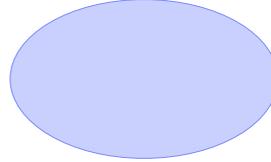
NOTE: A Java Runtime Environment (JRE) will also need to be accessible somehow

Deployment: Where can I put the user's settings?

Computer (local)



USB Thumb Drive



Network Share

Deployment: Where can I put the user's settings?

Any filesystem (local, USB drive, network)

How do I place the product image where it needs to be?

- For filesystem locations, simply copy the file(s) and give users access

- For `http://` or `https://`, you have two options:
 - Static-serving the file from your web server
 - Simply have your web server “serve” the file via a static link or some similar mechanism
 - (requires the user to have file association for `.jar`, and for that association to launch a Java 6 JRE)
 - Using Java WebStart technology
 - Only requires the user to have some Java installed (does not have to be Java 6)

How do I configure where user settings go? `AcsConfig.properties`

- This can be configured in the product configuration file, named “`AcsConfig.properties`”

- `AcsConfig.properties` is simply a list of configuration properties and values.

- These properties may also be specified on the command line
 `-D<property>=<value>`

- One such property is
 `com.ibm.iaccess.AcsBaseDirectory`

AcsConfig.properties (cont.)

```

# 3. Using a network drive in the configuration would not work from a Linux or
# Mac Client. Using the provided keywords, as in the examples below,
# will work on Windows, Linux and Mac.
#
# When sharing a configuration path between multiple users, the {USER}
# keyword should be used to avoid collisions with other users. It will
# be substituted with the user id of the current user.
#
# When setting the configuration path, use a forward slash ('/') instead of a
# backward slash ('\') as the directory separator. This will work on all
# operating systems including Windows.
#
# Here are some recommended sample configurations:
#
# Example 1 - local configuration for current user (default):
# com.ibm.iaccess.AcsBasedirectory=
# When AcsBasedirectory is not set, the configuration defaults to a platform
# dependent path for the user.
# This is the default setting for IBM i Access Client Solutions.
#
# Example 2 - remote (or local) configuration unique for each user:
# com.ibm.iaccess.AcsBasedirectory={ROOT}/config_directory/{USER}/
# The configuration will be remote or local based on the location of {ROOT}.
#
# Example 3 - remote (or local) configuration unique for each user:
# com.ibm.iaccess.AcsBasedirectory={PRODUCTDIR}/config_directory/{USER}/
# The configuration will be remote or local based on the location of {PRODUCTDIR}.
#
# Example 4 - local configuration on portable media (like USB drive):
# com.ibm.iaccess.AcsBasedirectory={PRODUCTDIR}/config_directory
# since the path to the portable media will vary depending on the system where
# it is being used, this setting allows the configuration to be relative to
# the product files. In this example, the {USER} keyword was intentionally not
# specified so the configuration on the USB drive would be used by the user of
# the USB drive, regardless of the user ID.
com.ibm.iaccess.AcsBasedirectory=
#
# The following properties may be used to automatically set up a configuration
# for new users or to update a configuration for existing users:
# com.ibm.iaccess.autoimport=<path-to-configuration-file>
# com.ibm.iaccess.autoimport.version=<version>

```

AcsConfig.properties (cont.)

- The following locations are searched for the AcsConfig.properties file:

1. In the classpath (that is, inside acsbundle.jar)
 - Sample, default version included with the product
2. In the same directory as acsbundle.jar
3. By interrogating the “ibmi.acs.configuration” Java System property (the property’s value is assumed to be the properties file). One would set this property on the command line. Example:

```
acslaunch_win-32.exe -Dibmi.acs.configuration=M:\AcsConfig.properties
```

- **IMPORTANT NOTE!!** When multiple properties files have conflicting entries, the last one “wins”!!

com.ibm.iaccess.AcsBaseDirectory

- **The value of this property determines:**
 - The location of user settings
 - The location of service logs/dumps/etc
 - The default directory used by the 5250 session manager (this can be configured separately if desired)

- **The value is expected, therefore, to be a directory name on a filesystem. It can be**
 - Left blank (which leaves behavior at the default location)
 - The path of a hardcoded directory name (fully-qualified is highly recommended)
 - A constructed path using special keywords (not applicable)

Tip: use forward slashes ('/'), not backslashes ('\')

com.ibm.iaccess.AcsBaseDirectory : Special keywords

- **{USER}** : would be the current username (valid anywhere in the path)
- **{PRODUCTDIR}** : would mean the product's location in the file system (valid only at the beginning)
- **{TEMPDIR}** : would be the temporary directory (valid only at the beginning)
- **{ROOT}** : the root of the file system where the product is located (valid only at the beginning)
- **{CWD}** : the current working directory (valid only at the beginning)
- **{HOME}** : the user's home directory (valid only at the beginning)
- **{DEFAULT}** : the default place to look for user settings (valid only at the beginning)

Tip: avoid concurrent access!!!!

POP QUIZ

You have deployed the ACS jar file on a network share. Most users map this share as "M:" (Linux users have mounted it as /mnt/shr1).

You want user settings to also be stored on the network share. You also want each user's settings to be saved in its own location.

Is this even possible?

- a) Yes

POP QUIZ

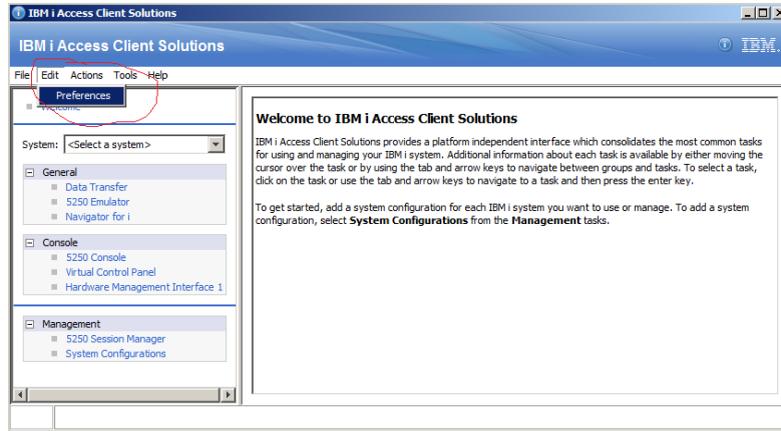
You have deployed the ACS jar file on a network share. Most users map this share as "M:" (Linux users have mounted it as /mnt/shr1).

You want user settings to also be stored on the network share. You also want each user's settings to be saved in its own location.

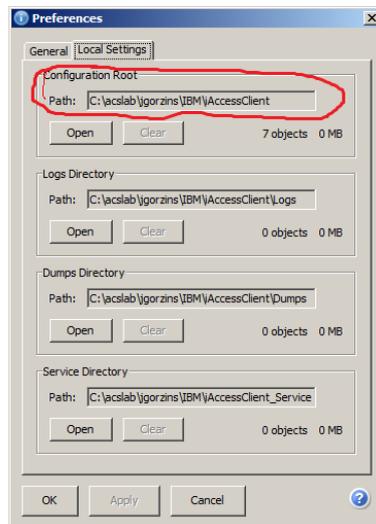
What would be an acceptable value for `com.ibm.iaccess.AcsBaseDirectory`?

- d) `{ROOT}/ACS/{USER}`
- f) `{PRODUCTDIR}/ACS/{USER}`

Verifying location



Verifying location



Cliff's notes: Common configurations

Default (“My Documents” on Windows, home dir otherwise)

```
com.ibm.iaccess.AcsBaseDirectory=
```

Network share

```
com.ibm.iaccess.AcsBaseDirectory={ROOT}/config_directory/{USER}
```

```
com.ibm.iaccess.AcsBaseDirectory={PRODUCTDIR}/config_directory/{USER}
```

Thumb drive!

```
com.ibm.iaccess.AcsBaseDirectory={PRODUCTDIR}/config_directory
```

Deployment

- Remember these questions? There's also an “extra credit question”..... Any guesses?

3. A Java Runtime Environment (JRE)

Deployment: customizing your JRE

▪ Some general notes about Java Runtime Environment:

- Use up-to-date versions of Java!
- When using 32bit launchers (.exe's), you must use a 32bit JRE (and 64bit launchers require a 64bit Java)

Deployment: customizing your JRE

▪ Customizing your JRE (offering a specific JRE for all users) can be done in the following ways:

- If launching the product by invoking java.exe (java -jar acsbundle.jar), fully-qualify a path the java.exe you would like to launch with
- If launching the product by invoking acslaunch_XXXXX.exe, use one of the command line options:

```
Usage: [-options] [args...]
```

```
where options include:
```

```
-vm <path to jvm home directory>
```

```
-vmdll <path to a jvm lib file>
```

```
see java -help for other valid options
```

```
where args include:
```

```
/plugin=<name> [plugin-options...]
```

```
<file>
```



Tip: place quotes around paths containing spaces!

Deployment: customizing your JRE

- **Alternatively, if launching the product by invoking `acslaunch_XXXXX.exe`, you can also place a JRE alongside the `.exe` file**
 - For instance, if your product image is expanded to `C:\ACS`,
 - Launcher executable will be at
`C:\ACS\Start_Binaries\Windows_i386-32\acslaunch_win-32.exe`
 - You can put a JRE in
`C:\ACS\Start_Binaries\Windows_i386-32\jre\`
 - (e.g.: you can copy the directory `C:\Program Files\java\jre6` to “`C:\ACS\Start_Binaries\Windows_i386-32\jre`”)

Deployment: customizing your JRE

- **Why would you want to do this?**
 - JRE can be on a network share or thumb drive
 - The default JVM on a workstation may or may not be Java 6 or newer (or there might not be a JVM on a particular workstation)
 - Gives the administrator more control
 - Need not worry about having Java installed on user workstations
- **Why would you NOT want to do this?**
 - Client VM may get updates automatically
 - Your deployment is all based on local workstation, you don't want to deploy a JRE, and JRE's may vary
 - Usually not necessary (most workstations have Java)

Verifying JRE



“Takeaways”

- Platform-independent
- Deployed, not installed
- Customizable
- Available NOW!

<http://www-03.ibm.com/systems/power/software/i/access/solutions.html>

Thank you!
Any questions?



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