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Troubleshooting the IBM® Lotus® Notes 8.5 Standard Client

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September 30, 2010

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Agenda

- Definitions
- Basic Client
- Debug Parameters
- NSD Commands
- Eclipse Console
- Preferences
- Tips and Tricks
- IBM Support Assistant
- Types of Issues
- Troubleshooting Steps
- References





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Definitions

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What Is Eclipse?

- Eclipse is an Open Source Community
 - Open source means all code is shared by all community members
- Projects focus on an “Extensible Development Platform” and “Application Framework”



What Is Eclipse? (continued)

- The Eclipse Product is Visual Based IDE Development Tool
 - Think of Microsoft's Visual Studio
 - Instead of developing C++ applications, it is used to develop Java applications
 - Full featured IDE with a GUI Interface
- Eclipse was written with Eclipse !!
 - Eclipse is an Eclipse based application



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Notes Was Written With Eclipse

- The Notes 8 and 8.5 Standard Clients were written using Eclipse
 - They follow the Eclipse standards
 - They allow developers to extend the functionality through plug-ins
 - What's a plug-in?
 - Hold on for a minute...



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Java Runtime Environment

- JRE 1.6 is the version installed with the Notes 8.5 client
 - Notes installs its own JRE instead of using the operating system version
 - Too many compatibility potential issues right now
- See tech note 1188789 for the supported versions of Java with other IBM products



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Plug-ins

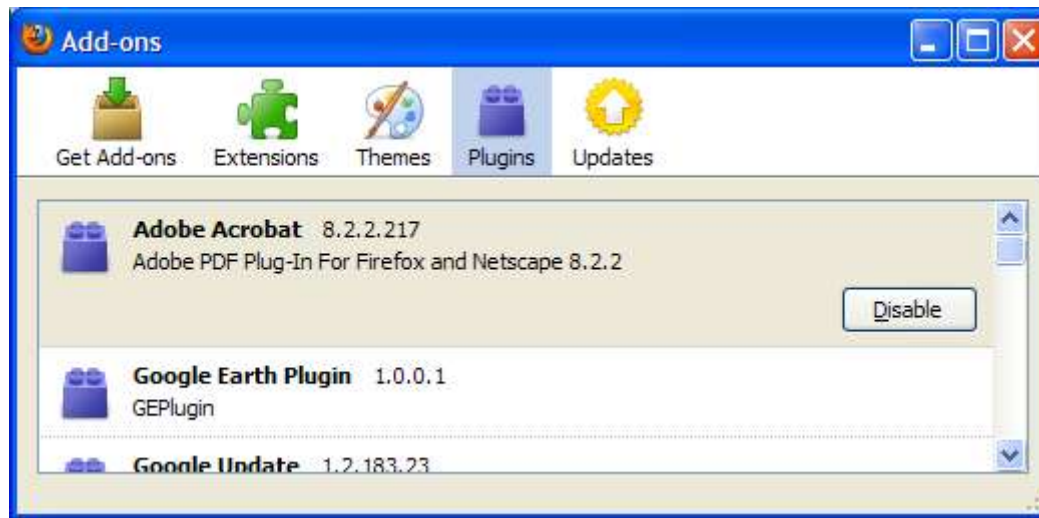
- From a programming standpoint a plug-in is a collection of
 - Java Classes that define forms, views, perspectives
 - Creating objects, what to do when things happen, etc
 - Graphics and icons
 - HTML files
 - Configuration Files
 - A Manifest
 - Other Necessary files



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Plug-ins (continued)

- Plug-ins allow a product to expand its functionality
- You may be familiar with the term from a browser perspective



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Plug-ins (continued)

- Plug-ins modify the host application in such a way that menus, main screens, and options can contain new items related to the plug-in
 - Can add/enhance menus
 - Can add/enhance tool bar buttons
 - A plug-in can have its own user interface
 - Can even modify the host user interface



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Plug-ins And Notes Standard

- The Notes Standard client has many, many plug-ins
- Each plug-in is responsible for a specific piece
 - One plug-in for one specific task, not one plug-in for several tasks
 - Means there are many plug-ins, each handling a specific task



Plug-in File Structure

- Plug-ins named in “reverse order” of release date, number, function, owner
 - For example...
 - The Eclipse core comes from the “www.eclipse.org” web site, so core eclipse files will have names like `org.eclipse.equinox.registry_3.4.0.v20080516-0950.jar`
 - Registry program release 3.4.0
 - Released May 16, 2008 at 9:50 AM



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Plug-in File Structure (continued)

notes\framework\rcp\eclipse\plugins

 com.ibm.rcp.webcontainer.utils_6.2.1.20090925-1604.jar	 org.eclipse.draw2d_3.4.2.v20090114-1330.jar
 com.ibm.rcp.ws.axis.proxyhandler.nl_6.2.1.20090925-1604.jar	 org.eclipse.emf.common.ui_2.4.0.v200902171115.jar
 com.ibm.rcp.ws.axis.proxyhandler_6.2.1.20090925-1604.jar	 org.eclipse.emf.common_2.4.0.v200902171115.jar
 com.ibm.rcp.ws.objectfactory.nl_6.2.1.20090925-1604.jar	 org.eclipse.emf.ecore.change.edit_2.4.0.v200902171115.jar
 com.ibm.rcp.ws.objectfactory_6.2.1.20090925-1604.jar	 org.eclipse.emf.ecore.change_2.4.0.v200902171115.jar
 com.ibm.rds_1.0.0.20090909-1600.jar	 org.eclipse.emf.ecore.edit_2.4.1.v200902171115.jar
 org.apache.commons.beanutils_1.6.0.20090925-1604.jar	 org.eclipse.emf.ecore.xml_2.4.1.v200902171115.jar
 org.apache.commons.codec_1.3.0.20090925-1604.jar	 org.eclipse.emf.ecore_2.4.2.v200902171115.jar
 org.apache.commons.collections_3.1.0.20090925-1604.jar	 org.eclipse.emf.edit.ui_2.4.2.v200902171115.jar
 org.apache.commons.digester_1.5.0.20090925-1604.jar	 org.eclipse.emf.edit_2.4.2.v200902171115.jar
 org.apache.commons.discovery_0.2.0.20090925-1604.jar	 org.eclipse.emf.mapping.ecore2ecore_2.4.0.v200902171115.jar
 org.apache.commons.el_2.0.0.20090925-1604.jar	 org.eclipse.emf.mapping.ecore2xml_2.4.0.v200902171115.jar
 org.apache.commons.httpclient_3.0.0.20090925-1604.jar	 org.eclipse.emf.mapping.xsd2ecore_2.4.0.v200902171115.jar

Eclipse Framework

- Does every eclipse based product install its own Eclipse framework?
 - Currently Notes, Integrated Sametime, Symphony (Productivity Editors) and Activities can be combined into one install and share a framework
 - Some Eclipse based applications will install their own framework (ISA tool, stand-alone Sametime)
 - The installers of this or Notes will not detect the previous framework and utilize it at the current time
 - The ability to have a single framework install for all necessary applications is being investigated





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Basic Client

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Notes 8.5 Basic Client

- Your first tool for troubleshooting 8.5 client issues is the Notes 8.5 Basic client
 - If you haven't begun the deployment yet, it might be a good idea to install two icons on the user's Windows desktop
 - One for the Standard Client and one for Basic
- What is the Basic client?
 - Launches Notes without the Eclipse/Java environment
 - Resembles Pre 8 Notes Client



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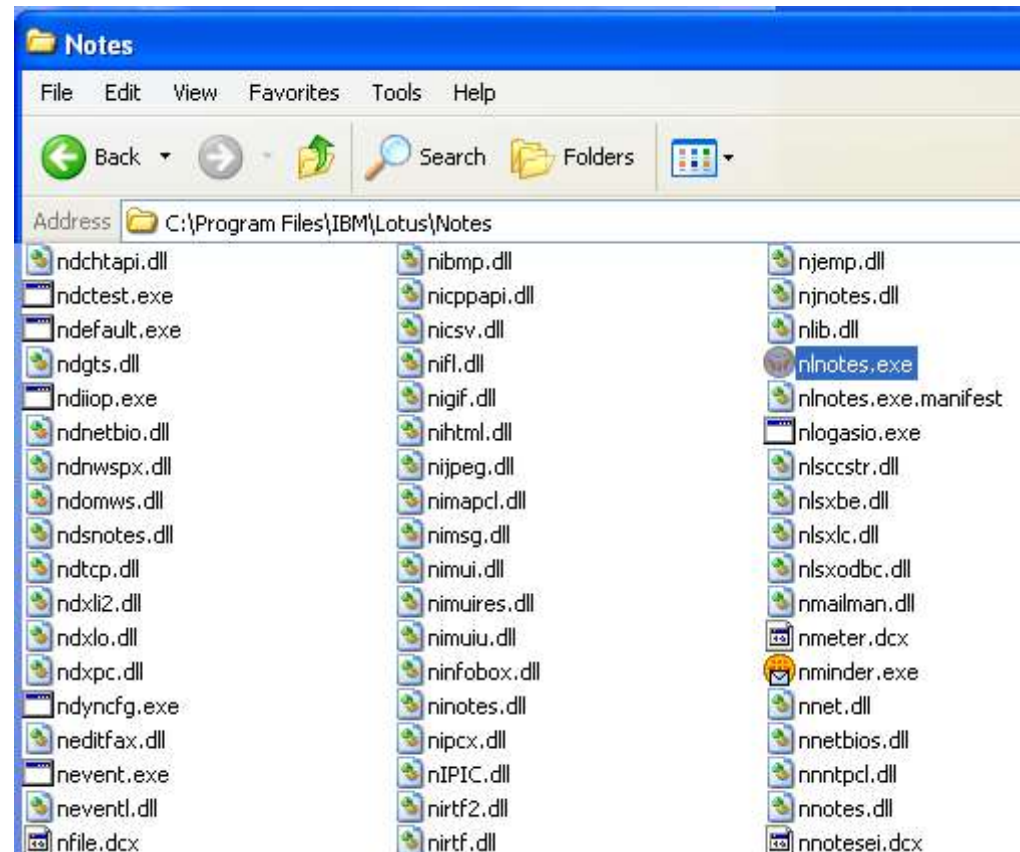
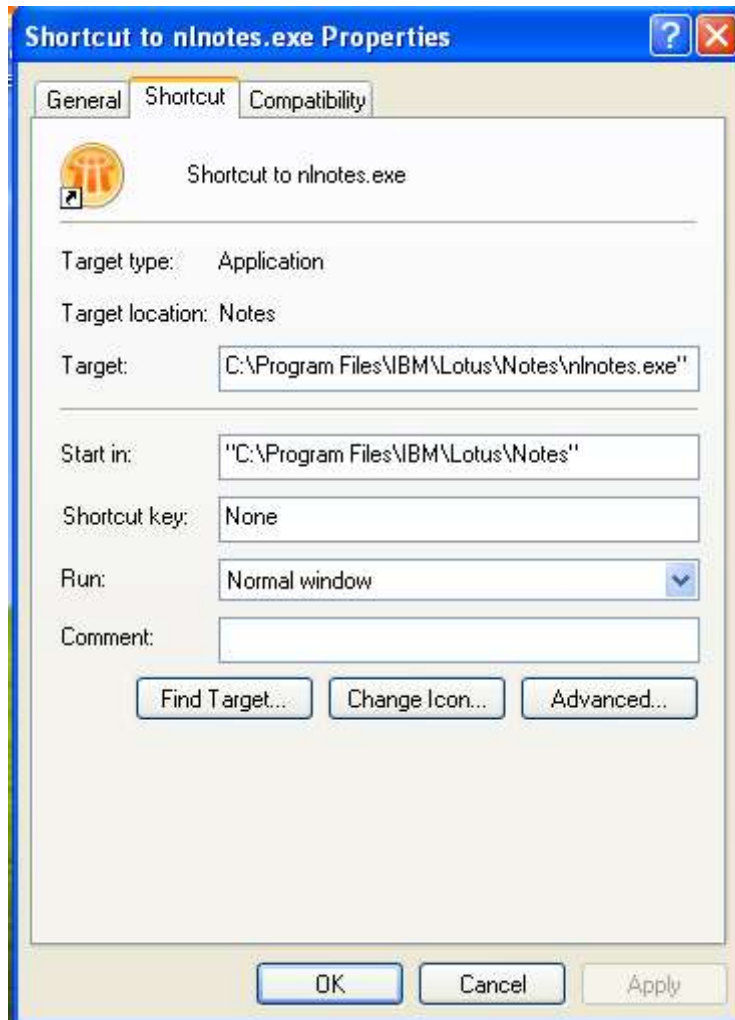
Notes 8.5 Basic Client (continued)

- Why is this a useful tool for troubleshooting?
 - Can help in troubleshooting by determining if an issue is reproducible without the Eclipse framework
 - Support will usually ask if the issue is reproducible in the basic client as one of the first questions
 - Testing this prior to opening a PMR and including results can assist in expediting the PMR



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Notes 8.5 Basic Client (continued)





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Demo Time!

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Demo Time!

- We're going to do a quick demonstration
 - Launching Notes Standard
 - Launching Notes Basic





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Debug Parameters

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Useful Debug Parameters

- console_loglevel=2
- client_clock=1
- debug_outfile=
- logfile_dir=
- logStatusBar=1
- debug_threadID=1
- enable_break=1
- debug_console=1
- debug_busy=30



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console_loglevel

- console_loglevel=2
 - Old `console_log_enabled` parameter
 - This parameter is no longer necessary
 - Default console log level
 - Parameter is present in INI file by default
 - Enabled by default
 - Do not need to change unless instructed to do so by support

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client_clock

- client_clock = 1
 - Information about how long notes takes to perform different functions and WHAT function
 - Information about what functions notes is performing (opening a database, opening a document, authenticating, building a view, etc)
 - Parameter available prior to Notes 8
 - When enabled, information will appear in the console log along with normal console messages
 - Other values (besides 1) not recommended unless requested by support

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debug_outfile

- debug_outfile=<full path>
 - Default location for console log is
<notes data>\IBM_TECHNICAL_SUPPORT
 - This parameter changes the default location



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logfile_dir

- logfile_dir=<full path>
 - Changes default location for ALL log files
- Naming convention for log files
 - console.log is the current log
 - console_name_yyyy_mm_dd@hh_mm_ss.log is the log for the session that ended at that date/time
 - New console log created at each startup
 - Old log files are not automatically cleaned up

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logStatusBar

- logStatusBar=1
 - Records status bar messages to a log buffer
 - Any message that appears in the status bar also appears in the console log
 - Appears with “Status Msg:” in front of the message



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debug_threadID

- debug_threadID=1
 - When a log message is generated, includes the thread that triggered the message
 - Useful when troubleshooting client crashes
 - Associate the thread that caused the crash with log messages from the same thread
 - Appears in the console log before the date/time
 - [0FB8:0002-0FBC] mm/dd/yyyy 09:07:35 AM
Dynamic Client Configuration shutdown

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enable_break

- enable_break=1
 - When set and using OSGi console, allows user to generate a Java core if a problem occurs
 - What is the OSGi console?
 - We'll get to that in a few slides



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debug_console

- debug_console=1
 - Displays a live Notes console
 - Shows information that is also written to the console log
 - Useful when waiting for something to happen
 - Once you see it recreated in the Notes console, capture the appropriate dump information



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debug_busy=30

- The parameter value is a “number of seconds”
- If any user initiated action exceeds this number, then a call stack will be output
 - There are some actions where the response from the server might take a while, like a search
- After the 1st stack, a stack will be output at 2X, 4X and 8X in case the wait continues
- Output from this setting is not necessarily a bug



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Additional Log Files

- Notes Client Log Files
 - Still available in `IBM_TECHNICAL_SUPPORT` directory
 - Includes the Console Log
 - `logfile_dir` allows these files to be written to a different location than the default



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Additional Log Files (continued)

- Eclipse Log Files
 - Located by default in
`<notes data>\workspace\logs`
 - Trace logs
 - Information also shown in Eclipse console
 - Error logs
- Installation Log Files
 - Location will vary



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Demo Time!

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Demo Time!

- Time for another demonstration
 - Viewing log files
 - Adding debug to notes.ini file





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NSD Commands

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NSD

- If anyone in your company is still using an old third party product (like [killnotes](#)) to terminate Notes processes, discontinue
 - You should be using NSD instead
 - You can change the shortcut of the icon to run an NSD instead of the third party product
- NSD is used to terminate Notes and all its processes and optionally generate a system dump for diagnostic purposes

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NSD Options

- NSD -kill
 - Stops all Notes Process and Generates an NSD
 - For some issues, the NSD may not be helpful, but the command will still ensure all Notes Processes are stopped.
- NSD -dumpandkill
 - Creates a dump file (if available) in addition to the NSD and kills all of the Notes Client related processes



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Eclipse Console

Eclipse Console

- Earlier, slides mentioned the “OSGi” console
- This is the Eclipse console
- Allows viewing of live information that also will be logged into Eclipse log files
 - Generally, information that is specific to Eclipse
 - There might be some duplication with the Notes console, but not very much



Eclipse Console (continued)

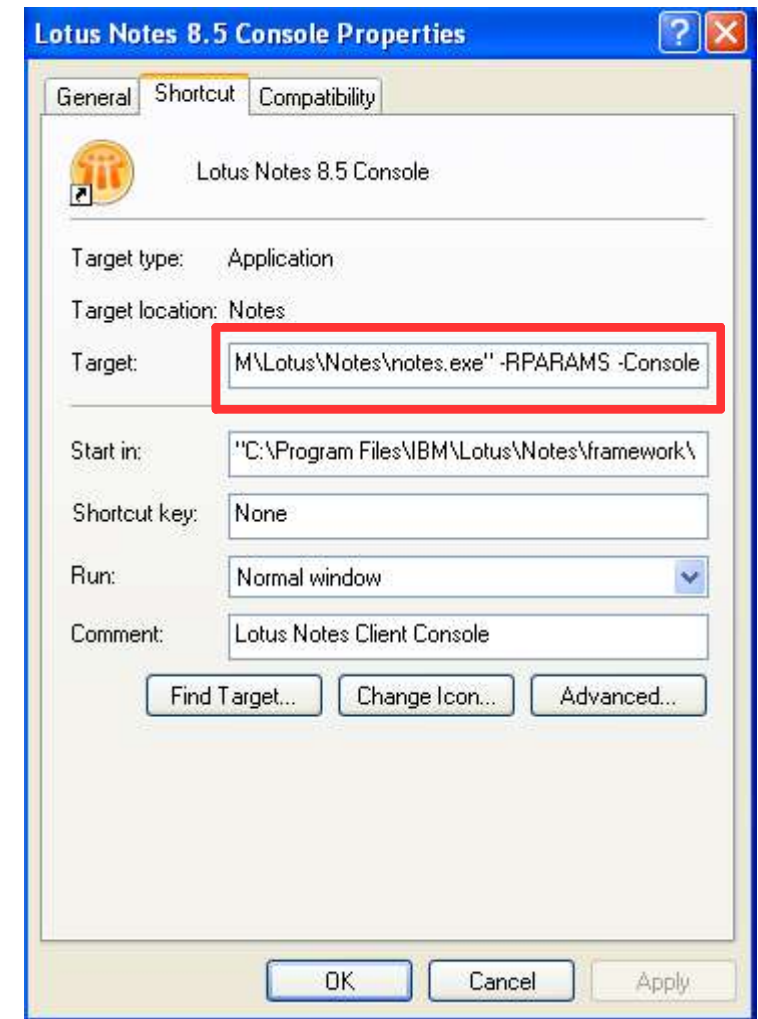
- You can now launch Standard Notes with 0, 1, or 2 additional console windows
 - Notes console
 - Enabled via `debug_console=1` in the notes.ini file
 - Eclipse console
 - Enabled via modification to the shortcut used to launch Notes
 - See next slide



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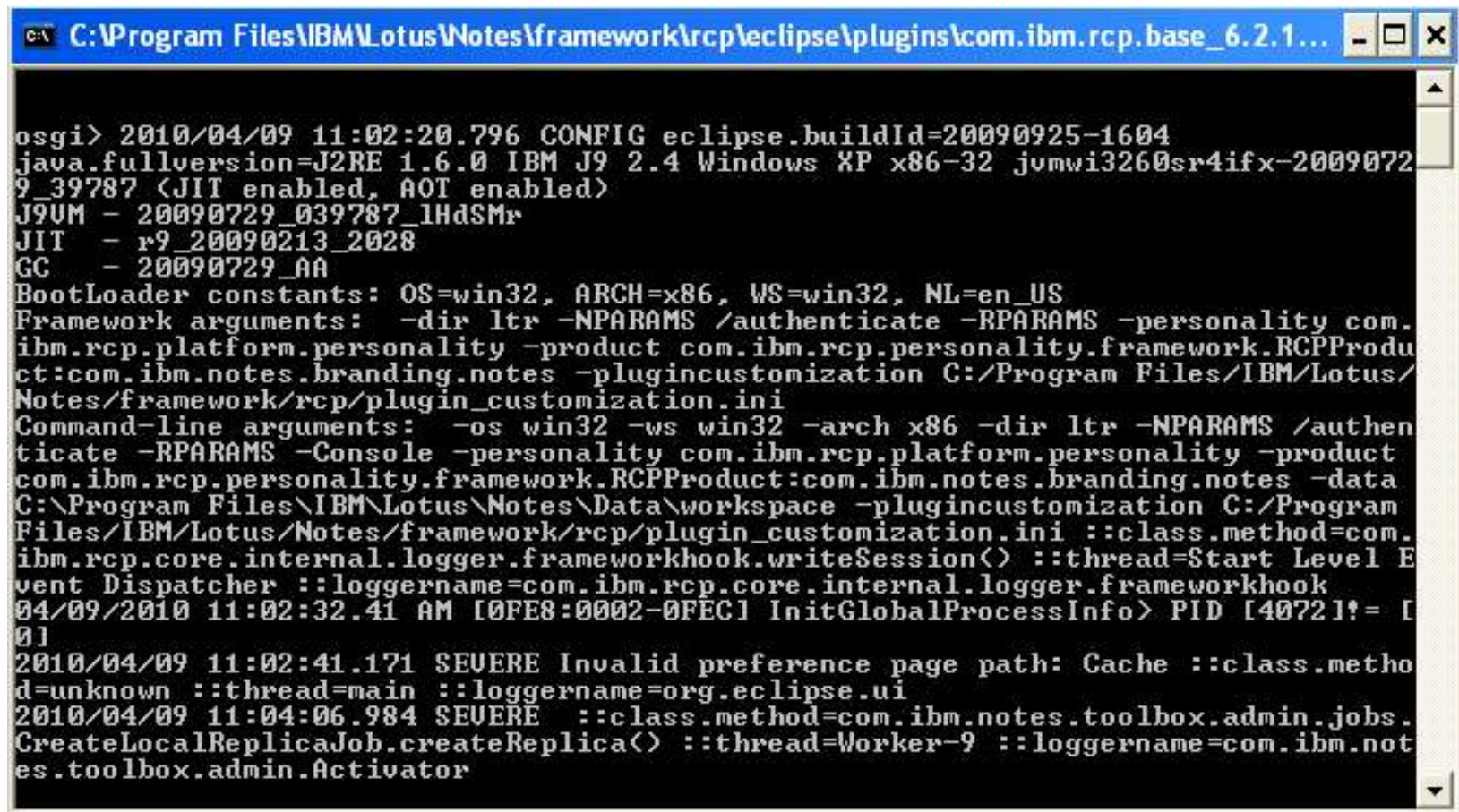
Enabling Eclipse Console

- The `-RPARAMS` option is used to send commands to Eclipse
- `-Console` command will launch the Eclipse Console with Notes
- Add `enable_break=1` to ini
 - Allows Java core generation if problem occurs



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Example Eclipse Console



```
C:\Program Files\IBM\Lotus\Notes\framework\rcp\eclipse\plugins\com.ibm.rcp.base_6.2.1...
osgi> 2010/04/09 11:02:20.796 CONFIG eclipse.buildId=20090925-1604
java.fullversion=J2RE 1.6.0 IBM J9 2.4 Windows XP x86-32 jvmwi3260sr4ifx-2009072
9_39787 (JIT enabled, AOT enabled)
J9VM - 20090729_039787_1HdSMr
JIT - r9_20090213_2028
GC - 20090729_AA
BootLoader constants: OS=win32, ARCH=x86, WS=win32, NL=en_US
Framework arguments: -dir ltr -NPARAMS /authenticate -RPARAMS -personality com.
ibm.rcp.platform.personality -product com.ibm.rcp.personality.framework.RCPProdu
ct:com.ibm.notes.branding.notes -plugin customization C:/Program Files/IBM/Lotus/
Notes/framework/rcp/plugin_customization.ini
Command-line arguments: -os win32 -ws win32 -arch x86 -dir ltr -NPARAMS /authen
ticate -RPARAMS -Console -personality com.ibm.rcp.platform.personality -product
com.ibm.rcp.personality.framework.RCPPProduct:com.ibm.notes.branding.notes -data
C:\Program Files\IBM\Lotus\Notes\Data\workspace -plugin customization C:/Program
Files/IBM/Lotus/Notes/framework/rcp/plugin_customization.ini ::class.method=com.
ibm.rcp.core.internal.logger.frameworkhook.writeSession() ::thread=Start Level E
vent Dispatcher ::loggername=com.ibm.rcp.core.internal.logger.frameworkhook
04/09/2010 11:02:32.41 AM [0FE8:0002-0FEC] InitGlobalProcessInfo> PID [4072]! = [
0]
2010/04/09 11:02:41.171 SEVERE Invalid preference page path: Cache ::class.metho
d=unknown ::thread=main ::loggername=org.eclipse.ui
2010/04/09 11:04:06.984 SEVERE ::class.method=com.ibm.notes.toolbox.admin.jobs.
CreateLocalReplicaJob.createReplica() ::thread=Worker-9 ::loggername=com.ibm.not
es.toolbox.admin.Activator
```


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Important: Eclipse Console

- It is VERY IMPORTANT that you DO NOT close the Eclipse/OSGi Console manually
 - Let the shut down of the Notes client close the console
 - If the Notes client will not shut down, run an NSD to force the console to close
 - If you close the console with Notes running, you may not be able to do anything more in Notes
 - You might force yourself into HAVING to run an NSD

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What Console Should I Use?

- Client Clock, Notes Console, and Console Log will only be helpful with Notes Issues
- If Eclipse is not starting up correctly, Notes Console, Client Clock and Console Log may not have any information in them



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-RPARAMS

- -Console is not the only -RPARAMS option
- -RPARAMS -Clean
 - Cleans the Eclipse workspace subdirectory
 - Removes cached information, state information
 - Less intrusive compared to removing entire subdir
 - Use this option as a “first attempt” when troubleshooting Eclipse-specific startup issues
 - Do not use excessively
 - Notes uses this temporary information to improve performance of the client
 - Only use for issues instead of deleting workspace directory



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-RPARAMS (continued)

- `-RPARAMS -resetconfig`
 - Deletes the Eclipse workspace subdirectory
 - Use if the `-Clean` option does not work
 - Not Recommended but has been found to resolve some issues
 - If Clean does not work, further troubleshooting will not help, and Eclipse still will not start
 - Workspace subdirectory can be manually deleted, but `-resetconfig` is much easier

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-RPARAMS (continued)

- `-RPARAMS -resetconfig` (continued)
 - Will remove user preferences and settings that are stored in Eclipse
 - New Workspace Directory is built from the Framework folder in the Notes Client Programs Directory
 - All of the default settings taken from the files stored there
 - Some policy based settings may not be applied
 - Depends on where the preferences are stored

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-RPARAMS (continued)

- `-RPARAMS -resetconfig` (continued)
 - WARNING: Desktop policies are only reapplied when they are changed
 - If the Personal names.nsf does not indicate that the policy has changed, it may not be reapplied, so in addition to losing custom settings for the user, company based policy settings also may not be applied when removing the workspace directory





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Demo Time!

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Demo Time!

- We're going to do another demonstration
 - Launching Notes Standard with Notes Console
 - Launching Notes Standard with OSGi Console



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Break Time

- Time for a 30 minute break



“They tried adding healthy snacks to the office vending machine, but all that rotting fruit made the candy bars taste bad.”



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Preferences

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Preferences

- Basic and Standard Client May Not keep some preferences in the same location
- As Development of the Notes Client progresses, the standard client will migrate towards keeping preferences in the `<notes data>\workspace\.metadata` folder
- This will increase the number of settings stored in different locations

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Preferences (continued)

- See tech note 1283416 for a list of where certain preferences are stored
 - Tech note written for Notes 8, but most are still applicable to Notes 8.5
 - This is just to give an idea of how different preferences are stored in different locations





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Tips And Tricks

Troubleshooting Red X Emails

- Tech note 1110585
- Check if standard browser can access the Internet
 - Firefox, IE, etc.
 - If user can't access Internet, Notes can't either



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Red X Emails (continued)

- Is the image embedded or attached?
 - Look in Document Properties for \$File
 - If attached (\$File is there), look at tech notes 1108466, 1109097, and 1196889
 - Internet Messages Arrive with Attachments or Body Parts That Appear Missing or Are Inaccessible
 - Notes client does not render an attachment for users with 'No Preference'/'Keep in Sender's Format' as mail storage preference
 - Users are not automatically prompted to 'Retrieve Internet service certificate' when images in HTML do not display



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Red X Emails (continued)

- Is the image embedded or attached?
 - If embedded (\$File is not there), follow these steps:
 - Set the Location Document to use Notes as the default browser and enter the same URL to the image location
 - Sometimes, perweb.nsf was never activated and this should activate it
 - In other cases, perweb.nsf doesn't exist and needs to be created
 - If entering the URL fails, see if there is a proxy set in IE and/or Notes and if they are the same



Cleaning Bookmarks

- Instead of deleting bookmark.nsf, try to clean the bookmark database
 - Less invasive to the user
 - Many settings/options will be retained
 - They are lost if bookmark.nsf is deleted
- Use this as a “first try” and only delete if all else fails



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Cleaning Bookmarks (continued)

- Process
 - From Notes Client Desktop
 - Ctrl+Shift and Right Click on Bookmarks Icon
 - Select Application -> Go Too
 - Select View “By URL” (No \$ Sign)
 - Select All Documents in this View (Ctrl+A)
 - Delete the Documents
- May Generate “Object Variable ...” Error
 - This is OK, it is a not a view we should be in

Cleaning Cache

- Process can be repeated for cache.ndk
 - File -> Application -> Open n
 - Manually type cache.ndk for filename
 - Esc to close “About Page”
 - Ctrl+Shift and Select View Gotoo
 - Same Procedure as Bookmarks
- Cache.ndk does not contain very many user specific settings or preferences so it is also acceptable to delete

Cleaning Bookmark/Cache

- After cleaning either bookmark.nsf or cache.ndk, restart the Notes client



Desktop Icon Issues

- When the desktop icons are not acting correctly the following steps may help:
 - Compact Desktop / Workspace
 - Right Click on Workspace in GUI
 - Workspace Properties
 - Click on the Beanie Tab
 - Click on the Compact Button
 - Can also manually compact with Notes Client down
 - `ncompact desktop8.ndk`

Desktop Icon Issues (continued)

- Other things to try when desktop icons are misbehaving:
 - Unstack icons, remove outdated references, stack icons
 - Sometimes the unstack/stack refreshes cached info
 - Look for icons referencing old servers
 - Remove those icons from the workspace
 - Check the cluster.ncf file for old references
 - File can be viewed with Notepad/Wordpad
 - Can be deleted; it will be recreated automatically



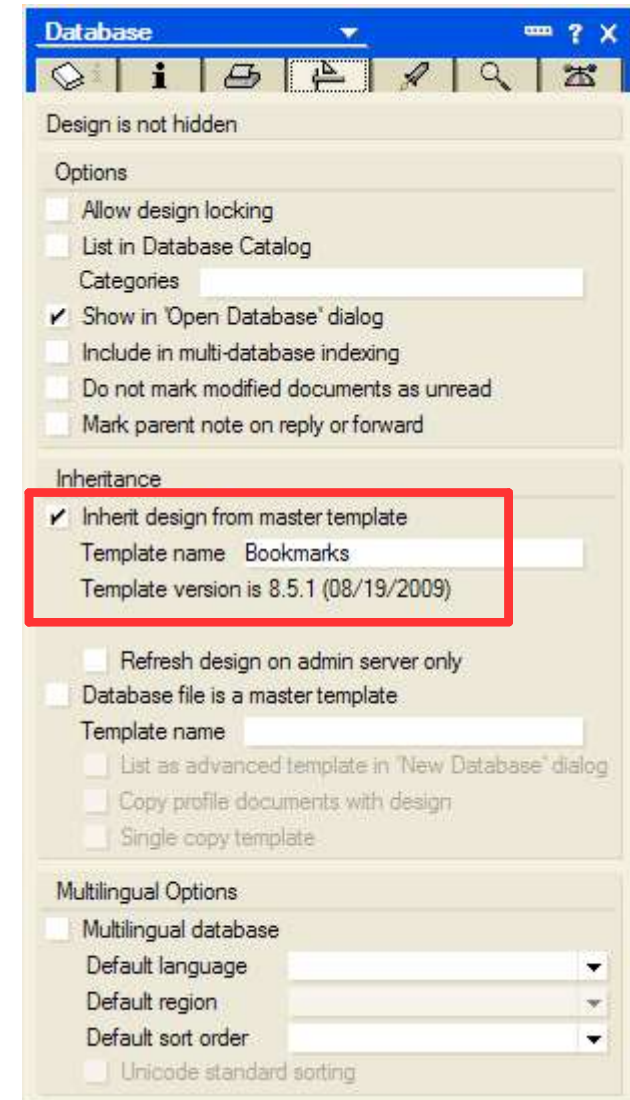
Compact Notes Data Directory

- Upgrading Notes Clients does not perform a compact or upgrade the ODS of existing data files
- After several releases, data files may need to be compacted to reduce fragmentation or upgrade to a newer ODS
- With Notes Client down
 - ncompact -c -i
 - Enter client ID's Password when prompted

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Other Hints/Tips

- Check template versions of names.nsf, bookmark.nsf and other local system files
- Replace design if necessary
 - Might have to show advanced templates when replacing designs



The screenshot shows the 'Database' properties dialog box. The 'Inheritance' section is highlighted with a red rectangle. It contains the following options:

- ☒ Inherit design from master template
 - Template name: Bookmarks
 - Template version is 8.5.1 (08/19/2009)
- ☐ Refresh design on admin server only
- ☐ Database file is a master template
 - Template name:
 - ☐ List as advanced template in 'New Database' dialog
 - ☐ Copy profile documents with design
 - ☐ Single copy template

Below the 'Inheritance' section is the 'Multilingual Options' section, which includes:

- ☐ Multilingual database
 - Default language:
 - Default region:
 - Default sort order:
 - ☐ Unicode standard sorting

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Other Hints/Tips (continued)

- User complaining about poor performance
 - Check Windows hard drive fragmentation
 - Check for anti-virus scanning Notes files
 - Discover with Filemon
 - Check for unwanted interaction from other products
 - Check swap file size
 - Recommend setting it to 1.5 amount of installed RAM
 - If 32-bit... but do not go higher than 4GB



Other Hints/Tips (continued)

- How is the user shutting down Notes/OS?
 - Client crash from OS shut down displayed false positive crash reports in fault recovery database
 - OS is shut down while Lotus Notes is opened
 - OS does not contain an application timeout to force the OS shutdown
 - Notes2 or similar process would get the rug pulled from underneath itself
 - The good: Crash is cosmetic to user, happens randomly
 - The bad: consistency check upon next launch





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IBM Support Assistant

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IBM Support Assistant (ISA)

- IBM Support Assistant is a complimentary software offering which provides you with a workbench to help you with problem determination
- A “lite” version is installed with Notes 8.5.x
- A “full” version (called the workbench) is available for download



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ISA (continued)

- ISA can be used to...
 - Gather troubleshooting information to send in to IBM or your help desk
 - Search public tech notes and other resources for possible causes/solutions



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ISA (continued)

- Launching ISA prior to 8.5.2
 - Help -> Support -> IBM Support Assistant
 - Dialog box appears for search, collecting data, etc.
- Launching ISA in 8.5.2
 - Help -> Support -> Collect Support Data
 - Data collection piece is automatically launched
- Launching ISA from outside of Notes
 - Go to `<Notes program>\framework\rcp`
 - Run [startcollector.bat](#) (startcollector.sh in Linux)

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Collecting Data

- The ISA collector gathers all problem determination data into a .zip file and informs the user of the location of the file
 - Files in the .zip use the OS file structure
 - <notes data>\workspace\logs
 - <notes data>\IBM_TECHNICAL_SUPPORT
 - And so on



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ISA Search Tips

- Use 1-2 keywords with “Standard Client” and Notes in Search (especially if issue is not reproducible in basic client)
- Use “” when 2 words need to be together
- Try to describe feature that is misbehaving with proper name of the feature
 - For example “Message Recall” not “Get Mail Back”
 - Help documents can assist in identifying the proper name of the feature



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ISA Search Tips (continued)

- If a tech note issue is similar but not exactly (and is applicable to your release) attempt to recreate the issue described in the tech note... it may still be related
 - If you can recreate the issue in the tech note that is similar, you might be able to reference that tech note when talking to IBM
 - You might also be able to get a work around by using information from the tech note





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Demo Time!

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Lab Time!

- We're going to do another demonstration
 - Discovering a bug in the 8.5.1 client
 - Collecting the ISA data





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Types Of Issues

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What Types of Issues are There?

- Different types of issues have different debug, different troubleshooting steps, and potentially different information support may need to collect
- Categorize the 4 Major Types of Issues
 - Crash
 - Hang
 - Non Fatal Error
 - Slow Performance

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Notes Client Crash

- Attributes of a “Crash”
 - Used to be a “Red Screen”
 - Now Shows Java Exception Error
 - Should generate NSD by default
 - If ADC is on, should mail in NSD by default
 - Can not recover from crash.
 - Usually requires user to stop all Notes processes, then restart client.
 - Any other slow behavior or error which allows user ability to move on, is not considered a crash



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Notes Client Hang

- Notes doing some task and doesn't respond
- Pressing CTRL+BREAK will not stop the task and return control
- Eventually need to restart client, but the client didn't stop on its own
- Usually no Pop-up error message or fatal screen like with a crash
- No 'red screen' or java equivalent
- Usually will not have an automatic NSD

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Non-Fatal Error

- Usually associated with a dialog box
 - Click OK (or similar) in the dialog box, move on
 - Control is returned to the client after clicking OK in the dialog box
- May not be able to complete original task, but can move on to other tasks with no issues



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Slow Performance

- Similar to a hang, but Notes eventually returns control to the user
- May need to CTRL+BREAK after some time in order to return control





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Troubleshooting Steps

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Notes Client Crash

- Can the crash be reproduced?
- Does the crash happen in both Standard and Basic?
- Was an NSD generated to help assist?
- Look at console logs for error messages
- Adding **client_clock** to the notes.ini may assist in determining what action was being performed at the time of the crash

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Notes Client Hang

- Can the hang be reproduced?
- Does it happen in both Basic and Standard?
- Add debug parameters to assist
 - debug_threadID=1
 - client_clock=1
 - debug_busy=30
 - 30 is the number of seconds
 - If any user-initiated action exceeds this number, then a call stack will be initiated

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Notes Client Hang (continued)

- Use **NSD -dumpandkill** to collect information
 - Then use ISA to gather up all the information
- Use console logs to see what Notes was doing at the time of the hang
 - Also use console logs to see if it really is a hang and not slow performance
 - If it is truly a hang, no more messages will be written to the consoles

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Non-Fatal Error

- Can the error be reproduced?
- Does it happen in both Basic and Standard?
- Analyze logs for error messages
- `client_clock` may assist
- Live console logs may assist



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Non-Fatal Error (continued)

- In error messages, look for design element names like view names or file names
- Use those design element names when searching ISA or Google



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Slow Performance

- Can the slow performance be reproduced?
- Does it happen in both Basic and Standard?
- **client_clock** can assist in tracking down the performance issue



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Slow Performance (continued)

- Biggest 'Eclipse' slowdown Issue has been on startup
- Cleaning/deleting the workspace folder usually fixes the issue
 - Gets the user running, but doesn't determine root cause
 - May not be the best thing to do in every case



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Slow Performance (continued)

- Start with our Eclipse console to see what is getting hung up
 - Is there a particular file we are getting stuck on?
Can we back it up, remove, see if Notes Starts?
 - Search for known issues on that file
- If the Notes plug-in hasn't loaded, it is possible the **client_clock** will not display anything
- Goal to fix on a file by file basis, not to delete entire directory



Startup Slowdown Questions

- Is this the first start after an OS boot?
 - “Cold-Start” vs “Warm Start”
 - Many of the files may be cached for “Warm-Start”
 - What is taking a long time to load?
 - Usually the splash screen with status bar
 - Verify this is the case
 - Is the OS finished loading before starting Notes?
 - What page will load when in
 - Welcome page with databases open?
 - Are these files local or remote?



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Slow Performance on Startup

- Disk fragmentation ?
- Disk free-space (20%) ?
- Disk Encryption on Notes Program and Data Directories ?



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General Troubleshooting Steps

- Close Notes Client
 - Close all processes which may tie to the notes executables, such as PDA synchronization apps
 - Ensure all processes are killed
- 'Clean' old log files, NSDs, ISA jar files etc
- Add appropriate debug
- Open Client
- Reproduce Issue

General Troubleshooting Steps

- (continued from previous slide)
- Use ISA agent (optional) to gather logs
- Close Client (if applicable)
 - Allow any NSDs to complete, or run manually



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Purpose Of Previous Slides

- Overall goal from previous slide is to create output only relevant to the current issue (go in, reproduce issue, go out)
 - Attempt to reproduce issue on basic client
 - Attempt to reproduce / fix issue
 - Look through logs and console output
 - Search Help Documentation
 - Search Technotes / Other Resources

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Clean Old Logs and Files

- Move existing log files to non-Notes directory
 - (Optional) Can be deleted if older, however not recommended to delete anything
- Can use `debug_outfile` and `logfile_dir` to redirect new logs to a different location



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Clean Old Logs/Files (continued)

- Clean up any old jar files from ISA, old NSDs etc. so we are only looking at an authentication, open the file with the issue, only see debug/traces for this issue
 - They can be migrated to a non-Notes directory, backed up or removed
 - Minimizing the amount of information will assist support in identifying the issue
 - Too much info and log files from too long ago, may make it more difficult to troubleshoot the current issue
 - Exception to this would be any install log (how the product was installed can be valuable)



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Adding Debug

- Make backup copies of the INI file and any other configuration files that may be edited
- Avoid adding unnecessary debug
 - Only add what is applicable for the issue being analyzed, or what is requested by support
- Remember to remove debug when finished analyzing





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Demo Time!

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Lab Time!

- We're going to do another demonstration
 - Troubleshoot the error from the previous demonstration





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References

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References

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