Debugging Domino with the Divas and “the Dude”

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Kim Greene - Introduction

- Owner of an IT consulting company
  - Kim Greene Consulting, Inc.
  - www.kimgreene.com
- Started my career at IBM, left and launched my own business in 2000
- Focus areas:
  - HCL collaboration software portfolio
- Customers are worldwide and in multiple industries
- Blog: www.dominodiva.com
- Twitter: iSeriesDomino
Michelle Smith - Introduction

- Owner of an IT consulting company
  - M.E.Smith Consulting
- Started fixing IT issues during University work terms and learned I loved solving the ‘puzzles’
- First exposure to Lotus Notes and Domino was migrating a non-Y2K compliant email environment to Domino… wow that was a while ago!
- Focus areas:
  - HCL collaboration software portfolio
- Work with Kim to support a group of amazing clients!
Paul Albright - Introduction

- Technical team lead for Application Development support team at HCL
  - Supporting HCL Notes, HCL Domino, HCL Enterprise Integrator, HCL Domino Rest API, HCL Domino LEAP, HCL LEAP
  - I hit 25 years supporting these products this month
- Bachelor of Science degree in Computer Science
- Master of Science in Management specializing in Computer Information systems
Agenda

- There’s a Problem, Now What?!?
- Scoping the Problem
- Enabling Debug and Logging
- Troubleshooting Essentials
- Documenting
- Communicating
- Working with HCL Support and/or Business Partner/Consultant
- Resolving the Issue
- Accelerating troubleshooting with 3rd Party Tools
- Q&A
Agenda

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And so it Begins

- You start your day ... and then “oh sh!+” happens
- People panic
  - OMG
  - Phones are ringing
- Details coming in are vague
- Confusion about what the issue is
- Incorrect conclusions are made
- Sound familiar?
Sometimes it is the smallest details

- Case is opened as “Intermittent issue sending emails”
- Mail routing SWE and customer troubleshoot mail routing
- Finally on a call with customer
  - Customer mentions “only happens when clicking button in application”
  - Look at code behind button
  - Found and resolved issue
- Knowing that “little detail” would have saved days of work
Need to Look at the Big Picture

- Customer problem
  - Every time I flush my toilet my computer restarts
- Checked all of the standard things
- Chatting with customer
  - Found out lives in a trailer
  - Computer and electric toilet on same circuit
  - Extra load from the “flush” caused the issue
That Problem is Happening Again

- Get pinged by customer
  - “Hey, remember that lookup issue, it’s happening again”

- Started troubleshooting Application “A”

- Screen share, customer said “oh sorry, it’s not that DB, it’s this one”
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Scoping the Problem

- Key items to gather
  - Who is impacted?
    - Where are they located?
    - How many people are impacted?
    - Internal users, external users, both?
    - Any executives involved?
  - How is the business affected?
    - Loss of revenue
    - Employees unable to do their jobs?
Scoping the Problem

- Key items to gather (cont’d)
  - What platforms are impacted?
    - While it may be “obvious to you”, HCL Support won’t know the platform

- Which protocols are impacted?
  - NRPC
  - HTTP
  - SMTP
  - POP3
  - LDAP
Scoping the Problem

- Key items to gather (cont’d)
  - Has anything changed?
    - Operating system
    - Domino version
    - Notes version
    - Applications
    - Network
    - Firewall
Scoping the Problem

- Key items to gather
  - Screen captures and videos are your friends!

- Screen share session with affected user (avoid the middleman)

- Is it reproducible?
  - What are the steps needed to reproduce?
Scoping the Problem

- ALL of this is important to understand “even if you don’t think they have anything to do with the issue”
Scoping the Problem

- **Example** – User A of a Notes workflow application is not able to send auto-generated emails to User B
  - User A has been using the application since 2022
    - Assumption: User would have reported the issue sooner
  - When did the problem start?
    - Restated: When was the last time this worked?
    - The answer may just be that it never worked
Scoping the Problem

- **Example** (cont’d)
  - Screen capture of error sent
    - Ah, so an error is viewed in the Notes client
    - The resolution was found when searching through Forum comments – more on that later in our Troubleshooting section!
Scoping the Problem

- **Example** - Global business has offices in China, India, and the US
  - During certain times of the day, users in China and India cannot connect to the server via Notes or Web Browser
    - Domino servers are hosted in US
    - Log review shows server is up during this time
  - Hosting provider suggested:
    - Setting tasks to run at different times during the night
    - China / India users run scripts to test connectivity
    - Assumption: “It’s the great firewall of China”
      - Therefore, a network issue
Scoping the Problem

• **Example (cont’d)**
  
  • Key Item missed in scope - Does it happen in the US that time of the day?
    
    • This was missed because no one reported an issue at that location. Why would that be?
      
      • This was about 3 AM Central time
      • No one used their email at that time
    
    • We finally set our alarm clocks and tested at that time, and determined the issue also affected users in the US
      
      • Scope changed significantly!

  • Issue eventually found to be nightly jobs being performed in Data Center of the hosting company
Scoping the Problem

**Example** – Issue happens randomly during the day, for a period of about 30 minutes

- Users receive delivery failures for emails sent externally
- Users receive incoming emails with .EML attachments rather than being properly formatted
Scoping the Problem

**Example (cont’d)**

- When does the issue occur?
  - Initially, the time of the issue was determined by the time of calls to the Support Desk
    - To determine exact times, reviewed the log.nsf around the reported time
      - Found message “File Cannot Be Created” during these times
      - Searched log.nsf for the error
  - What else is happening when issue occurs?
    - Found the client was also having issues with backups around these times.
      - Correlating the exact time of the errors in the log with the time of the backups helped narrow down the issue.
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Enable Logging BEFORE Problems Happen

- Core debug that needs to always be in place
  - Semaphore debug to have enabled
    - DEBUG_THREADID=1
      - Helpful to identify process or thread holding a semaphore
    - DEBUG_CAPTURE_TIMEOUT=1
    - DEBUG_SHOW_TIMEOUT=1
    - DEBUG_SEM_TIMEOUT=X
      - Used to specify how long a semaphore must timeout before being reported
Enable Logging BEFORE Problems Happen

- Deletion logging
  - Very helpful in determining “who/what” did the deleting
  - **Example** – documents missing in shared database
    - Invoices sent to a mail-in database
    - External process “POPs” messages from the database
    - Multiple Notes client users of the database
    - Messages have gone missing
    - Enabled Deletion Logging
      - Quickly identified user who was HARD deleting documents from Trash
Data to Collect on a Regular Basis

- **Statistics**
  - Gather statistics for system as a whole
  - Capture statistics on:
    - CPU
    - Memory
    - Disk I/O
    - Network I/O
  - Some examples
    - Perfmon
    - Perfpmr
    - nmon
    - vmstat
    - Collection Services
    - iostat
    - netstat
Data to Collect on a Regular Basis

- Statistics – Example - Collection Services
Data to Collect on a Regular Basis

- Activity logging
  - Records user activity by:
    - Person
    - Database
    - Access protocol
  - Great for debugging performance slowdowns and CPU spikes
    - Specific application or protocol caused CPU spike or performance slowdown
    - Spike in user activity is cause of CPU spike or performance slowdown
Data to Collect on a Regular Basis

- **Message Tracking**
  - Tracking of email messages passing through a Domino server
  - Use to determine what happened to a message
    - Was it delivered, read, deleted?
    - When did it arrive?
    - Etc.

- **Easy to Configure:**
  - Configuration Settings -> Router/SMTP -> Message Tracking
  - Restart the ROUTER task
Enable Logging BEFORE Problems Happen

- Where are application errors / log events written to?
  - Console
    - Check console log sizes to reduce change of wrapping
      - Console_log_max_kbytes=300000
    - Mirroring logs
      - Console_Log_Mirror=1
  - Separate logging database
    - Makes problem analysis much more efficient
      - More details provided in the Troubleshooting Essentials section
  - Agent logs
    - It’s not just about logging, but what “not” to log
      - More details provided in the Troubleshooting Essentials section
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Troubleshooting Essentials

- Breathe
  - Don’t panic!
- Don’t hide embarrassing data
  - Can significantly delay problem resolution
  - Remember, they’ve seen it all
    - Like going to the doctor
Troubleshooting Essentials

- Be methodical in approach
  - Don’t Forget the basics – some issues ARE simple
    - **Example** - MarvelClient
      - Customer utilizes panagenda MarvelClient to push Connection documents to users
      - New Notes client installations not receiving Connection documents
      - Review of MarvelClient configuration shows should be working
        - ... however the license had expired
Troubleshooting Essentials

- Listen to your intuition
  - **Example** – application issues
    - When reviewing applications, often drawn to particular part of design
    - Usually that is where the issue is occurring
  - **Example** – customer said it was the SAN, my intuition said it was the network
    - Customer had intermittent performance issue on their mail server
    - Mail server used a SAN
    - Mail server was “supposed” to have a 10 GB connection to the SAN
    - VM where Domino server was controlled had multiple NIC cards
    - Most NIC cards were 1 GB, only 2 were 10 GB
    - App running on VM controlled security cameras
    - Host was configured to use a round robin policy
Troubleshooting Essentials

- Finger pointing doesn’t help
  - Favorite ‘finger pointing’ conclusion:
    - ‘It Must be the Network’
      - *Warning: The above only works if you are not also the ‘Network Person’*
  - Rule out everything you can, it’s not hot potato
    - Focus should be solving the problem
Troubleshooting Essentials

- Check for common solutions
  - Google
    - Include “HCL Domino” or “HCL Notes”
    - Use exact error message
  - Search your internal KB
    - What, you don’t have one? You need one!
    - Example - Notes Client issue
      - User reports getting error when opening Notes that client “configuration hasn’t been fully setup”
      - HelpDesk support personnel just installed the Notes client
      - They didn’t follow their documentation on setting up/configuring the Notes client for the user
Troubleshooting Essentials

- Check for existing solutions
  - Search HCL KB articles
    - Tip: “open” a Case with the error message shows documents that aren’t “googleable”

- Example - “File does not exist”
Troubleshooting Essentials

- Run maintenance on impacted databases
  - Why?
    - Corruption problems can quickly be remedied
    - HCL Support will ask you to run these
Troubleshooting Essentials

• Run maintenance on impacted databases
  • How?
    • `load fixup -F path\filename.nsf`
      • NOTE: Add -J if Transactional Logging is enabled on the server
    • `load compact –c –i –d path\filename.nsf`
      • Copy style compact won’t complete if anything accesses the DB
    • `load updall –R path\filename.nsf`
  • Tip: Include the results of the maintenance in your documentation
Reviewing Logs

- Key to know specifics on dates and times problem happened/happens
  - Particularly important when reviewing logs from different systems (a.k.a. non-Domino)
    - **Example** – “File cannot be created” error seen in log.nsf when users are unable to send external emails
      - Gathered times of the occurrences
      - Used 3rd party tool consoleEZ to search log for the error
      - Once we had the times, we were able to correlate the errors to the time of the start of the backups
Reviewing Logs

- Check appropriate logs
  - Domino
  - Notes
  - XPages
  - HTTP
  - Agent
  - ...

Reviewing Logs

- XPages
  - These files are in the `data\domino\workspace\logs` directory on the Domino server or Notes client
    - error-logs and trace-logs
  - Content of files help locate what XPage is causing the issue, but the errors often help point to the portion of the XPage to look closer at for the issue
    - For example, any Java errors will include class having the issue and that allows you to just look at the parts using that particular class
Reviewing Logs

- XPages Error-log

```xml
<CommonBaseEvent creationTime="2024-01-09T16:01:03.678-05:00"
globalInstanceId="EL0a866a8700018cefcdcb0800000006" msg="CLFAD0134E: Exception processing XPage request" severity="50" version="1.0.1">
  <extendedDataElements name="CommonBaseEventLogRecord:level" type="noValue">
    <children name="CommonBaseEventLogRecord:name" type="string">
      <values>SEVERE</values>
    </children>
  </extendedDataElements>
  <extendedDataElements name="CommonBaseEventLogRecord:sourceClassName" type="string">
    <values>com.ibm.commons.log.AbstractLogMgr</values>
  </extendedDataElements>
  <extendedDataElements name="CommonBaseEventLogRecord:sourceMethodName" type="string">
    <values>log</values>
  </extendedDataElements>
  <extendedDataElements name="CommonBaseEventLogRecord:Exception" type="string">
  </extendedDataElements>
</CommonBaseEvent>
```

Reviewing Logs
Reviewing Logs

- HTTP logs
  - Example:
    - Customer reports emails being sent from the VP of HRs email, BUT ...
    - Emails were not sent from the VP
    - Domlog.nsf shows first login request 11/30/2016 at 1:26 AM
      - VP doesn’t use webmail
    - First login shows successful login, password was known
    - How did it happen?
      - VP of HR used mobile device at coffee shop the day prior
      - SSL was not implemented (yet) on Traveler server
Reviewing Logs

- Agent Logs
  - Print statements are a common debug method, BUT ...
    - Often left behind and fills up the console.log
    - **Caution:** Often contains sensitive data!!
  - *Tip:* Create a Boolean debug value and use it to control if the print statement should be printed.
    - If not actively debugging set it to False

Sub Initialize
  Dim debug As Boolean

  debug = True ' set to False to disable debug
  ' some LS code
  If debug Then
    Print "At Place 1"
  End If
End Sub
Reviewing Logs

- Agent Logs (cont’d)
  - Tip 1: Use the NoteLog LotusScript method to debug
    - Write debug to an email, a text file or a Notes database
    - Keeps the console clean, allows you to look at just the data you need
      - [https://help.hcltechsw.com/dom_designer/12.0.2/basic/H_NOTESLOG_CLASS.html](https://help.hcltechsw.com/dom_designer/12.0.2/basic/H_NOTESLOG_CLASS.html)
  - Tip 2: Use OpenLog method to log and debug
    - OpenNTF project
    - Write errors and log messages to an OpenLog database
    - Works with LotusScript and Java agents
      - [https://www.openntf.org/main.nsf/project.xsp?r=project/openlog](https://www.openntf.org/main.nsf/project.xsp?r=project/openlog)
Reviewing Logs

- **Example – OpenLog**
  - Much easier than combing through console.log
Troubleshooting Agent Issues

- Enable agent manager debug
  - `tell amgr debug *`
- Make sure to turn it off once the issue is resolved!
  - `tell amgr debug off`

- Pay attention to what the specific agent message(s) are
  - Are the messages coming from:
    - AMgr
    - Agent Manager
    - Agent Message
Troubleshooting AgentIssues

- Understanding "AMgr:" messages
  - Come from an external process
  - Control of agent has been turned over to another process
    - Lotus Connector example
      - AMgr: Agent ('TSCompanyUpdate' in 'corpwrk.nsf') message box:
        Rate Lotus Connector Error 12809 on line 69 Error: Invalid field
    - SQL Connector example
      - AMgr: Agent ('Assigned Reports' in 'ExternalBus.nsf') message box:
        ExternalBus.nsf => CommonFunctions_SL => AssignedReport
        Error 91 on line 137 Object variable not set
Troubleshooting Agent Issues

- Understanding “Agent Manager:” messages
  - Come from the agent manager itself
  - Examples:
    - Agent Manager: 'RunSourceAgent' in database 'helpdesk/people.nsf'. Agent signer 'Ray Ozzie/IRIS', effective user 'Ray Ozzie/IRIS'. Agent signer, 'Ray Ozzie/IRIS', does not have access to this server.
    - Agent Manager: Agent 'Access OS2' error: Operation is disallowed in this session
Troubleshooting Agent Issues

- Understanding “Agent message:” messages
  - Come from the agent
  - If in LS code where manipulating forms, views, etc., will come from the agent itself
    - Example:
      - Agent message: CheckPassword => ProfileAudit Error Handler: No logs open on line 79

- Tip: Use the LS debugger
  - Can the LS code be run manually from the client?
    - If so, enable LS debugger from the Tools menu in the client and hit continue until the error occurs.
    - Line throwing the error is the line highlighted in the debugger.
Troubleshooting Performance Issues

- **Views**
  - Limit the number of sorted or categorized columns
  - Use hidden views sorted by a single column for lookups
  - Use Manual refresh setting in view where possible

- **Number of documents**
  - Can we archive or move documents to different database?
Key Also to Review These Logs

- Firewall logs
- Operating System logs
- Other environments and applications connect to
  - DB2
  - Other servers
- Activity logging
- Message tracking
Key Also to Review These Logs

- Firewall logs
  - **Example:**
    - Users experiencing significant sync delays to mobile devices weeks after moved to Traveler HA
    - All Traveler servers in the pool have Green status
    - All Traveler servers can ping each other
    - Firewall updates made, blocking IPC ports 50125 and 50126
Key Also to Review These Logs

- Operating system logs
  - Example:
    - Users reporting very slow response times accessing mail server
    - Nothing out of ordinary in console logs
    - Port trace to server seems fine
    - Reviewing OS logs, see backup from Saturday in an Event Wait state
    - Review of backup logs revealed the problem
      - End of volume reach on tape drive
    - Backups had core Domino files locked, dramatically impacting performance
Key Also to Review These Logs

- Other environments and applications connect to
  - DB2
  - Other servers
  - Example - OpenLog - DB2 errors
Key Also to Review These Logs

- Other environments and applications connect to
  
  - **Example** - OpenLog – DB2 error details
Key Also to Review These Logs

- Activity Logging
  - **Example** - Want to disable POP3 on port 110 and only allow Secure POP3 over port 995
  - Want to proactively help users change their settings
  - But who is using POP3?

- Need to activate Activity Logging
  - Tools -> Analyze -> Activity
  - Select POP3
  - Below we see the 3 users who have used POP3 in the selected time range
Key Also to Review These Logs

- Message tracking
  - To Use: In Domino Administrator client
    - Messaging -> Tracking Center -> New Tracking Request
  - Note: The data reindexes periodically (15 min by default) so don’t be surprised if your recent emails are not shown

- Great for finding the delivery status of emails
  - Example – User reporting they did not receive an email

![Image of tracking center interface]
Troubleshooting Essentials

• Look for what lead up to the issue
  • Example – Searches are slower
    • Customer has custom written tool that searches and removes malicious emails from users’ mail files
    • Customer reports searches are slower than they used to be
    • No errors in the application
    • Nothing found in console logs
    • No performance issues found with hosting system
    • Analysis of search results reveals searches have been slower since September 23
    • Server was upgraded on September 22
Troubleshooting Essentials

- Complete analysis BEFORE making changes!!!
  - Absolutely essential

- Change one thing at a time!!
  - Otherwise, what fixed it??
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Documenting

- Document EVERYTHING!!!
  - Screen captures
  - Dates/time stamps
  - Detailed log of what you:
    - Have found
    - Have done
    - Any changes made
      - When
      - By whom
      - The reason the change was made
Documenting
Documenting

- Start right away!
  - You WILL forget
  - Even if it “may” not seem relevant, include it
  - Remember, everyone is panicking people are probably stressed

- Your documentation will become a formal or informal knowledge base
  - At least parts of it
    - Not all your notes are needed in the documentation for others – edit out the OMGs 😊
Documenting

- Notes.ini updates
  - Document who, when, why
  - **Example** of notes.ini updates:

```plaintext
; Kim Greene changed NSF buffer pool from 300 MB to 750 MB on 3/19/2019 to improve performance
NSF_Buffer_Pool_Size_MB=750

; Added by Kim Greene on Nov 19 2020 for running DAOS Estimator to collect data with better bucket sizes
DAOSTEST_BUCKETS=16,32,64,128,256,512,1024,2048,3072,4096

; Kim Greene changed from =3 to =1 on Nov 27 2015 as no longer needed in the environment
log_replication=1

; Added by Kim Greene on Nov 27 2015 to preserve any ServerTasksAt customizations when upgrading the server
SetupLeaveServerTask=1

; Kim Greene commented out Debug_Agent_Thread=4 on May 29 2020 with installation of hotfix QL605723
; Kim Greene removed the comment so Debug_Agent_Thread=4 is enabled when reverting back to QL605723 on June 3 2020
; Kim Greene leaving set to 4 on Nov 29 2020 when installing hotfix QL605734
Debug_Agent_Thread=4

; Kim Greene added May 11 2023 to workaround insufficient disk space issue when creating replicas via AdminP
ADMINP_DISABLE_DISK_SPACE_CHECK=1
```
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Communicating what is going on and what to expect is key!
- Frequency
- Messaging (change for different audiences ...)

Communicate to:
- Stake holders
- Business users
- Support desk
- Affected User(s)

Example - emails to the organization
- This is a known issue, projected time to fix is 1 hour
- Tip: Send another email once problem is resolved
Communicating

- Communication needs to be
  - Open
  - Honest
  - Ongoing

- Pick up the phone or do a screen share!!
  - Call the “customer” / “end user” / “affected person”
  - Need to know what the ‘end user’ is seeing
    - And most importantly, what the end user is ‘doing’
Communicating

- Avoid assumptions
  - Can cause important information to be overlooked
  - Before you “assume” try this crazy method called “asking”
Communicating

- Ask questions
  - Don’t just accept what have been told
  - If something doesn’t make sense, get clarification
  - Use open ended questions, not just ‘yes’ and ‘no’
  - Key in on ‘pauses’ ... make them talk!
Communicating

• “Everybody lies”
  • Intentionally or not
    • We are imperfect beings
      • Don’t take what you are told as fact, you will need to verify

• Example
  • “It is happening constantly”
    • In reality the issue happened whenever they restarted Notes

• How to get people to “talk”
  • “I apologize I didn’t make it more clear / tell you about /...”
  • “Help me understand ...”
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Bringing in Outside Help

- You’ve taken it as far as you can, now what?
  - Open a Case with HCL Support
  - Bring in your Business Partner or consultant

- If it’s a bug in Notes/Domino/XPages, ... code
  - Need HCL to fix
  - Or find a way to workaround the problem
Bringing in Outside Help

**Example - Workaround**

- Server crashing with "**PANIC: TLA pointer is null! Has this thread called OSInitThread()?**" running specific Java agent after upgrade to 12.0.2
  - Java agent line causing crash: `private static ResourceBundle.getBundle("config", java.util.Locale.getDefault());`
    - Prior to Domino 12, HCL never set a Java default
      - config.properties attached to agent was utilized
    - Starting in version 12, HCL sets a Java default
      - config.properties file referenced is now config_en_US.properties
  - Workaround:
    - Change agent to use this line of code:
      - `private static ResourceBundle keyConfig = ResourceBundle.getBundle("config");`
Bringing in Outside Help

- Tip: Provide as much detail as possible
  - Remember that you ...
    - Live and breathe in your environment every day
    - Know the history of your environment
    - Know what has changed / stayed the same
    - Etc ...

*End of slide*
Working with HCL Support

- Proper preparation before opening a Case
  - Collect as much detail as possible
    - Helps with quicker resolution
    - Allows HCL to research the problem more thoroughly
  - If know DB causing the issue
    - Run maintenance on it
  - Detail what have done so far
    - Be very specific
Working with HCL Support

• Tips for working a case with support
  • Be open and honest
    • We don’t care who caused the issue or what you tell your boss, we are just trying to resolve the problem
  • If you do not understand why support is asking you to do something, ask questions
  • Keep communication open
    • If you will not be able to perform a test for a while, let us know and we can follow up accordingly
What HCL Will Ask For

• Expect to be asked to run some form of the following commands after opening a case:
  • On your Administrator client > Server > Server Console
  • Issue the following commands: (wait for each one to finish before going to the next command)
    • load fixup fixup -F -J mail\sample.nsf (-F if transactional logging is enabled)
    • load compact -c -D -i mail\sample.nsf
    • load updall -R mail\sample.nsf
  • Same commands we recommended previously
    • Run them ahead of time, post to case when opening and save some time
  • Tip: you should have this in your documentation, if so, can just upload to the case
    • Again, save some time
What HCL Will Ask For

- For issues affecting the server
  - Console log files
- Server and Notes client crashes
  - NSD files
  - Console log files
  - Semaphore debug files
  - Java Heap dump if one is created as part of the crash (.php file)
- XPages or Domino LEAP issues
  - Error and trace files
- Errors in custom applications
  - Simplified reproducible scenario
  - Non-encrypted design only copy of application
  - Details on name of view, agent, form, ... having issues with
What HCL Will Ask For

- Where do I find the files?
  - Server files:
    - Domino\Data\IBM_TECHNICAL_SUPPORT directory
  - Notes client files:
    - Notes\Data\IBM_TECHNICAL_SUPPORT directory
  - XPages or Domino LEAP:
    - Domino\Data\Domino\workspace\logs directory

- What is their naming convention?
  - console.log, console_DomMail_2023_10_04@04_53_42.log, ...
  - console_DESKTOP-CS8B1S4_2023_11_09@22_11_10.log, ...
  - nsd_07_19_21@12_06_20.nsd, ...
  - SEMDEBUG.TXT, SEMDEBUG_DomMail_2023_08_01@04_37_22.TXT
  - HeapDump_20241126.105324.45640.0001.phd
  - trace-log-0.xml, ...
  - error-log-0.xml, ...
Working with HCL Support

- Lessons Learned
  - HCL Ambassadors
    - Remember to use your template when opening Cases
  - Summarize information as Case progresses
    - Very helpful to make sure key information isn’t forgotten or “buried”
  - Ask for a screen sharing session to ensure the issue is understood
Working with HCL Support

• Lessons Learned (cont’d)
  • Sometimes you get a new L2
    • We were all new once (some of us haven’t been for a while)
    • Be Patient
      • But not to the detriment of the resolution
  • If a Case is not getting traction, you can:
    • Raise the priority of the case
    • Request a Duty Manager be assigned to review
    • Request an escalation of the case
Agenda

- There’s a Problem, Now What?!?
- Scoping the Problem
- Enabling Debug and Logging
- Troubleshooting Essentials
- Documenting
- Communicating
- Working with HCL Support and/or Business Partner/Consultant
- Resolving the Issue
- Accelerating troubleshooting with 3rd Party Tools
- Q&A
Resolving the Issue

- Once cause is identified, apply appropriate fix
  - Might involve repairing, replacing, updating or configuring new hardware or software

- Test and Confirm
  - Make sure the problem is resolved and the solution is effective

- Remove any extra debug or logging
Resolving the Issue

• Update Documentation
  • Record the problem and solution for future reference

• Follow up with the affected person(s)
  • Contact them directly - as support people, when do we get to talk to someone and deliver GOOD news?

• Remember:
  • If you have a Support Case open with HCL, update it
Agenda

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- **Accelerating troubleshooting with 3^{rd} Party Tools**
- Q&A
Accelerating Troubleshooting - 3rd Party Tools

- Free or low cost tools
  - MarvelClient Essentials
    - [https://help.hcltechsw.com/domino/12.0.2/admin/plan_marvel_client.html](https://help.hcltechsw.com/domino/12.0.2/admin/plan_marvel_client.html)
    - [https://www.panagenda.com/kbase/display/mc/MarvelClient+Essentials](https://www.panagenda.com/kbase/display/mc/MarvelClient+Essentials)
  - EBCDIC to ASCII converter
    - UltraEdit
  - Lotus Notes Diagnostic
    - Also converts EBCDIC to ASCII
    - [https://lotus-notes-diagnostic.software.informer.com](https://lotus-notes-diagnostic.software.informer.com)
Accelerating Troubleshooting - 3rd Party Tools

- Free or low cost tools
  - KillNotes
    - [https://download.cnet.com/killnotes/3000-2094_4-75905088.html](https://download.cnet.com/killnotes/3000-2094_4-75905088.html)
  - NotesPeek
    - [https://support.hcltechsw.com/csm?id=kb_article&sysparm_article=KB0036425](https://support.hcltechsw.com/csm?id=kb_article&sysparm_article=KB0036425)
    - 64-bit version for Domino 14 is available on Flexnet
  - NSFPEEK
    - [https://www.openntf.org/main.nsf/project.xsp?r=project/NSFPeek](https://www.openntf.org/main.nsf/project.xsp?r=project/NSFPeek)
Accelerating Troubleshooting - 3\textsuperscript{rd} Party Tools

- Free or low cost tools
  - All-in-one admin tool
    - https://support.hcltechsw.com/csm?id=kb_article&sysparm_article=KB0032494
  - Wireshark
    - https://www.wireshark.org/download.html
    - Configuring Wireshark to troubleshoot performance issues
      - https://support.hcltechsw.com/csm?id=kb_article&sysparm_article=KB0097503
Accelerating Troubleshooting - 3rd Party Tools

- Other tools we can recommend
  - Ytria EZ Suite
    - Administration and Development tool sets
    - Free functionality provided in each tool
    - [https://www.ytria.com/ezsuite/](https://www.ytria.com/ezsuite/)
  - MarvelClient
    - Essentials is included in your subscription, additional modules allow for automation of more features and functionality
    - [https://www.panagenda.com/kbase/display/mc/About+panagenda+MarvelClient](https://www.panagenda.com/kbase/display/mc/About+panagenda+MarvelClient)

- We use these tools daily with our customers who are licensed to use them
  - Why?
    - Saves $$$ in consulting expenses
    - Ease and accuracy of automation
    - Ability to dig deep into problems
    - More accurate
Agenda

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Questions?
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