Problem? No problem!: How to Successfully & Quickly Find the Valuable Information You Need to Solve a z/OS Issue

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SHARE in Boston

Abstract:

- We all run into issues. It happens all the time. But when issues arise, do you have the tools you need to find the valuable information to troubleshoot and diagnose the problem quickly and effectively? In this session two new mainframers will guide you on how to find this valuable information during crunch time, and how to utilize it to resolve issues quickly. The speakers will showcase a few different common issues a new systems programmer may face and highlight tools and techniques such as IBM Lookat, IBM Library Center, as well as IBM programs such as IFASMFDP in addition to helpful commands such as "ZOOME" to help you resolve these issues. The speakers will also discuss some technical documentation and links to useful information and many other resources which can help you prepare for your big unplanned moment. This introductory session is intended for those new to z/OS, but experienced users might learn something as well or can share their own favorite tools and techniques.

Housekeeping

- This is a voting SHARE
  - Are there any candidates present?
- Please fill out a comment card

- This Presentation:
  - Focus on using IBM Documentation
  - Good amount of live demonstration
  - Feel free to ask questions as we go
  - Geared towards beginners

About Your Speaker

- Worked as a Data Librarian in Middle school
- Graduated from a mainframe-specific college program
- 5 years as a Systems Programmer (Navistar, Inc.)

- 1.5 years as a Systems Engineer (CA Technologies)
- Currently doing systems work on the Mainframe 2.0 project(s) at CA

- Active member of zNextGen
- Third SHARE, second time as a speaker/chairperson.

Agenda

- Basic Problem Determination
  - DON'T PANIC
  - Define the Problem
  - Ask the Right Questions
- Documentation
  - IBM Manuals (and their many incarnations)
  - LookAt
  - ABC's of Systems Programming
- I'm Still Stuck

DON'T PANIC

So, What's the Problem?

- Read the output.
  - ALL of it. No matter how trivial.
- Be sure the job/program ran where you expected it
- Do a quick scan for syntax

- These three checks can resolve 90% of issues

Questions to Ask

- Has this run successfully before?
- Are there any error messages?
- Can you reproduce it?
- Have any changes been made since the last successful run?
- Does the problem affect people/things?
- Does the problem occur at specific times of the day?
- Does the problem occur with all systems/LPARs?
- Is the problem intermittent?

None of this Helped…

- If none of the previous pointers directed you somewhere useful, it's time to head to the documentation.

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    Before you dive in, assess the priority
    - In some situations, it may more affective to call for backup first
    - Only in dire need (SEV1 Problems)
    - If you have time, always do more research first

IBM Documentation

- Many different versions
  - Pay attention to the IBM document number
- Hardcopy, DVDs, Offline, Online

- Not easily received by the new mainframer:
  - "Documentation is either too prevalent, or non-existent"
  - "I can't tell how old these documents are"

- In Reality:
  - Most documents from IBM are meant as a reference
  - Everything is organized into topics

Library Server (BookManager READ)

- http://publibz.boulder.ibm.com/cgi-bin/bookmgr_OS390/Cases/zosv1rb0

- This is your absolute best bet to find things quickly

- Fast (HTML based interface)
- Search function is quick and accurate
- Easy to copy/paste from plain text

- Careful, IBM is looking to migrate away from BookManager

LibraryCenter

- http://publibz.boulder.ibm.com/bookmgr_OS390/libraryserver/zosv1r10/

- Significantly slower (Java based interfact)
- PDF indexing feel
- Predecessor to the Information Center

- Not recommended!!!!

Information Center

- http://publib.boulder.ibm.com/infocenter/zos/v1r11/index.jsp

- IBM's "latest and greatest"
- Still slow, but not Java heavy
- Different search engine (Lucene indexing)
- Well organized

- "You have to know the index category to know where to look"

LookAt

- http://www-03.ibm.com/systems/z/os/zos/bkserv/lookat/

- Allows you to quickly look up z/OS Messages
  - Uses the BookManager backend

- No vendor products included
- Available on z/OS as well (via free download)

ABCs of z/OS System Programming

- Volume 1: Intro to z/OS and Storage concepts, TSO/E, ISPF, JCL
  - http://www.redbooks.ibm.com/abstracts/sg246981.html
- Volume 2: z/OS implementation and daily maintenance, defining subsystems, JES2 and JES3, LPA, LNKLST, authorized libraries, SMP/E, Language Environment
  - http://www.redbooks.ibm.com/abstracts/sg246982.html
- Volume 3: Introduction to DFSMS, data set basics storage management hard-ware and software, catalogs, and DFSMStvs
  - http://www.redbooks.ibm.com/abstracts/sg246983.html

ABCs of z/OS System Programming cont.

- Volume 4: Communication Server, TCP/IP, and VTAM
  - http://www.redbooks.ibm.com/abstracts/sg245654.html
- Volume 5: Base and Parallel Sysplex, System Logger, Resource Recovery Ser-vices (RRS), global resource serialization (GRS), z/OS system operations, auto-matic restart management (ARM), Geographically Dispersed Parallel Sysplex (GDPS)
  - http://www.redbooks.ibm.com/abstracts/sg246985.html

ABCs of z/OS System Programming cont.

- Volume 6: Introduction to security, RACF, Digital certificates and PKI, Kerberos, cryptography and z990 integrated cryptography, zSeries firewall technologies, LDAP, and Enterprise identity mapping (EIM)
  - http://www.redbooks.ibm.com/abstracts/sg246986.html
- Volume 7: Printing in a z/OS environment, Infoprint Server and Infoprint Central
  - http://www.redbooks.ibm.com/abstracts/sg246987.html
- Volume 8: An introduction to z/OS problem diagnosis
  - http://www.redbooks.ibm.com/abstracts/sg246988.html

ABCs of z/OS System Programming cont.

- Volume 9: z/OS UNIX System Services
  - http://www.redbooks.ibm.com/abstracts/sg246989.html
- Volume 10: Introduction to z/Architecture, zSeries processor design, zSeries connectivity, LPAR concepts, HCD, and DS8000
  - http://www.redbooks.ibm.com/abstracts/sg246990.html
- Volume 11: Capacity planning, performance management, WLM, RMF, SMF
  - http://www.redbooks.ibm.com/abstracts/sg246327.html

ABCs of z/OS System Programming cont.

- Volume 12: WLM
  - http://www.redbooks.ibm.com/Redbooks.nsf/RedpieceAbstracts/sg247621.html
- Volume 13: JES3
  - http://www.redbooks.ibm.com/Redbooks.nsf/RedpieceAbstracts/sg247717.html

I'm Still Stuck… Now What?

- Ask your coworkers
  - Provide a short summary of what you did find
  - Ask question(s) based on what you have already learned
- Ask IBM
  - SEV4 ETRs for questions
  - Use the phone instead of IBMlink

The Unknown

- As we know,

There are known knowns.

There are things we know we know.

We also know

- There are known unknowns.

We know there are some things

We do not know.

- But there are also unknown unknowns,

The ones we don't know

We don't know.

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   - Donald Rumsfeld, Feb. 12, 2002, Department of Defense news briefing

Thanks!

- Any Questions?