Lotus Domino S/390 Best Practices 8626

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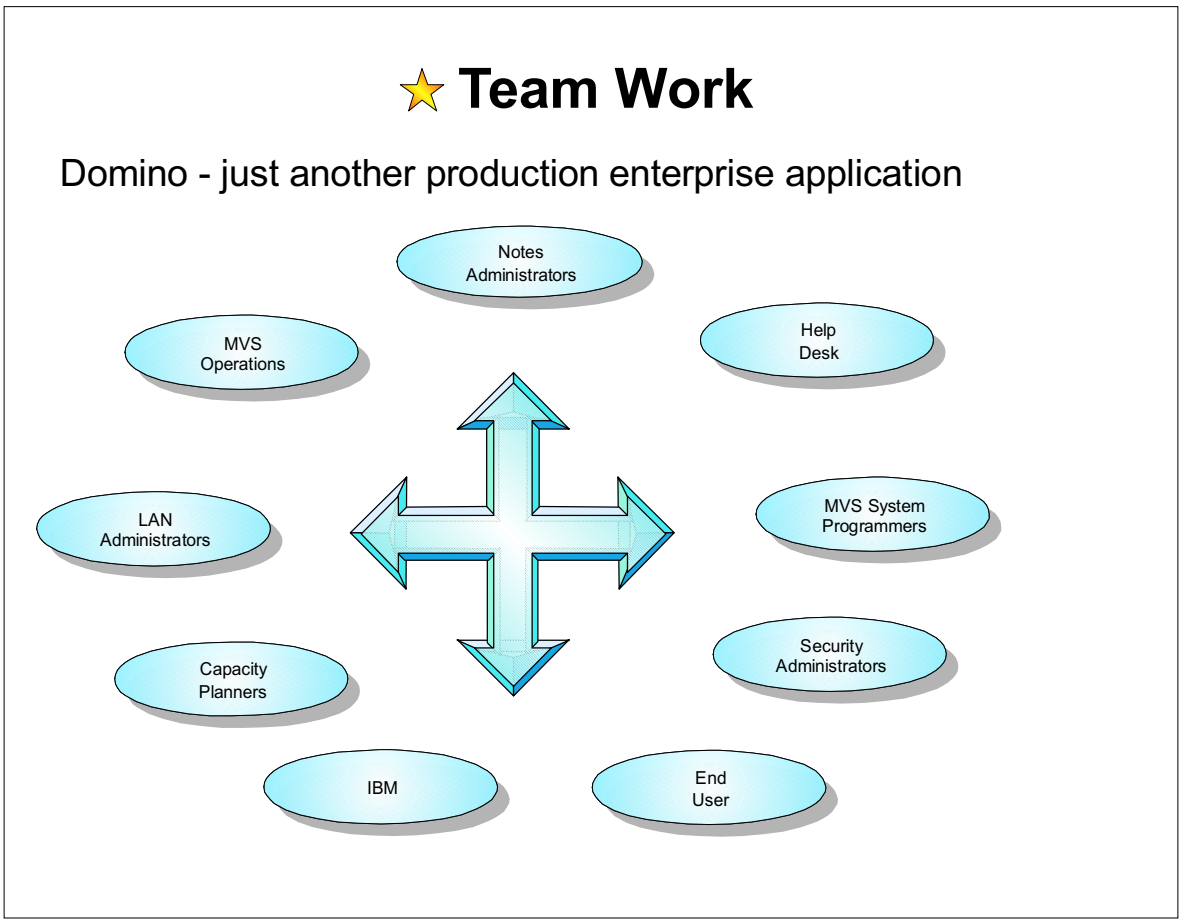
Agenda

- Team Work
- Sizing the proper system
- Sizing the proper Network Infrastructure
- Verify System is Performing well
- The Installation
- Problem Determination / Resolution
- Service Strategy
- Backup & Recovery Strategy
- Additional Resources

- We will use the system as much as possible and skip pages where we feel it is appropriate.



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★ Sizing the proper system

- Understand your environment
  - Type of user client - Notes, POP3, IMAP, iNotes, Web mail
  - Number of registered users
  - Number of connected users
  - Number of active users
  - Number of light-mail users
    - Sends and receives mail infrequently
  - Number of medium-mail users
    - knowledgeable about electronic mail and takes advantage of advanced mail functions.
  - Number of experienced-mail users
    - Takes advantage of Calendaring and Scheduling
  - Number of heavy-mail users
    - Takes advantage of Calendaring and Scheduling, also accesses applications and/or databases under Domino
  - Amount of data, including the amount of data the average user will have in their mail file
  - Will their be a limit to how much each user can save on their mail file?

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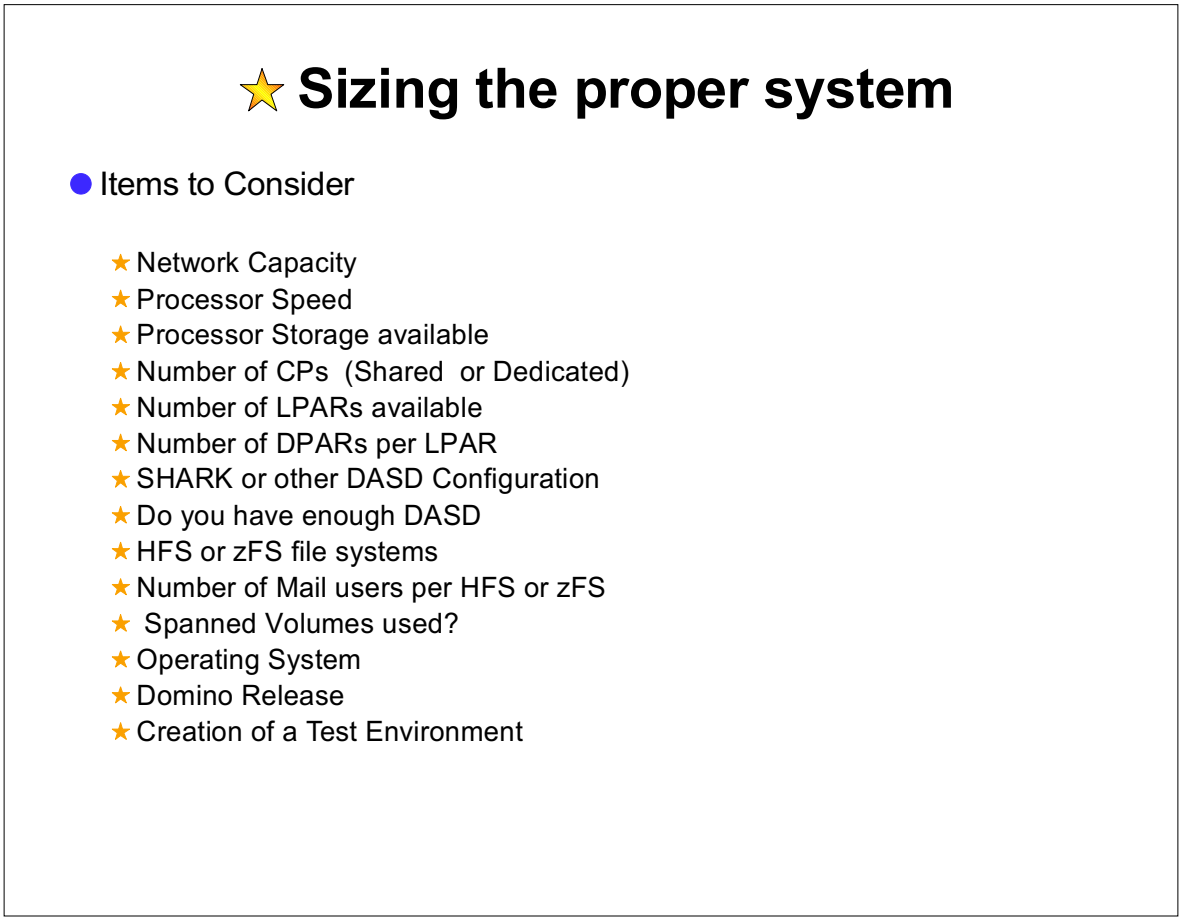

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★ Sizing the proper system

- Tools available to assist in sizing your system
  - ★ Domino Statistics
  - ★ SMF Data
  - ★ Marketing Support

Take into account growth when sizing the system. What worked when you sized the system initially may not be sufficient later on.

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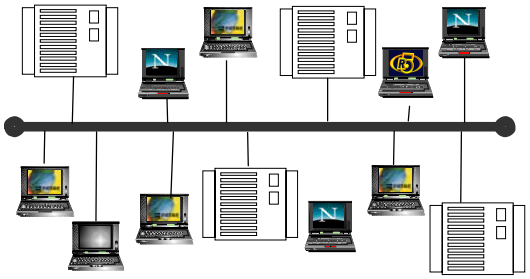
★ Sizing the Proper Network Infrastructure

- Will your current network infrastructure be sufficient?
- When benchmarking what is the difference between the two environments?
- The network group needs to be involved from the planning stage



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★ Verify System is Performing well

- Domino will work poorly in a badly-tuned system
- Products that need to be tuned for Domino
  - Operating system
    - z/OS V1R2.0 MVS Initialization and Tuning Reference: SA22-7592
    - z/OS V1R2.0 RMF Performance Management Guide : SC33-7992
  - z/OS UNIX System Services
  - LE
  - TCP/IP
  - RACF
  - I/O
  - Memory
  - Speed

  "UNIX System Services Planning Manual "
- Stay current with IBM Service

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☆ The Installation

- Read the latest Install and Release Guides
- We continue to make changes to these documents.
- Redbook Installation book is now outdated
- Run the PTF Checker for your Operating System Level
- Follow our recommendations in the Install Guide

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★ The Installation

- Other Items to consider when installing the product
  - ★ Install the latest level of the code available
  - ★ Consider using a test system first
  - ★ Use Shark DASD
  - ★ zFS File system instead of HFS
  - ★ Collect SMF data
  - ★ Use of OS/390 Console Support for Domino
  - ★ Use MVS Jobnames
  - ★ Transaction Logging
  - ★ Clustering
  - ★ Place /notesdata on a volume by it self
  - ★ Place Transaction Log and names.nsf on separate filesystems

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★ Problem Determination / Resolution

- **Run the PTF Checker tool**

- **Review log files**
  - ★ log.nsf, notes.log, stats databases,
  - ★ MVS Operators Console / SYSLOG
  - ★ SYS1.LOGREC (EREP)
  - ★ CEEDUMPs (/notesdata)
  - ★ New System Dumps? (SDSF /D D,T)

- **Dump Dataset Considerations**
  - Make sure you have DUMP datasets which are large enough.
    We strongly recommend dedicating a full volume for your dump dataset.
  - Increase the virtual storage that SVC dumps can use.
    We recommend increasing the default of 500M to 2000M, depending on how much available Storage you have. If set to low virtual storage data, summary dump data, and component-specific data may be lost.
    We recommend the following be placed in your COMMNDxx parmlib member:
     **COM='CD SET,SDUMP,MAXSPACE=2000M'**

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★ Problem Determination / Resolution

- **If Support asks you to create a DUMP**
  - DUMP COMM=(Description)
  - R xx,SDATA=(ALLNUC,PSA,CSA,LPA,SQA,RGN,SUM,TRT,GRSQ),CONT
  - R xx,JOBNAME=(OMVS,nnnn),CONT
  - R xx,DSPNAME=('OMVS.SYSZBPX1,'OMVS'.SYSZBPX2),END
- **If a server fails, it is beneficial to the service team to have a SVCDUMP, This is done via a SLIP Trap.**
  - U034 Abend - Set SLIP trap
    - SLIP SET,ID=U034,A=SVCD,COMP=U0034,ML=05,AI(0),JL=(OMVS),
    - SDATA=(ALLNUC,PSA,CSA,LPA,SQA,RGN,SUM,TRT,GRSQ),
    - DSPNAME=('OMVS'.SYSZBPX1,'OMVS'.SYSZBPX2),END

  By placing this in SYS1.PARMLIB(IEASLPnn) you can then set the SLIP during every IPL. You can place COM='SET SLIP=nn' in your COMMNDxx parmlib member.

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★ Problem Determination / Resolution

- **SMF Considerations**
  - Collect record Types
    - ★ 30 - Common Address Space Work
    - ★ 42 - DFSMS Statistics and Configuration
    - ★ 72 - RMF Workload Activity and Storage Data
    - ★ 73 - RMF Channel Path Activity
    - ★ 74 - RMF Activity of Several Resources
    - ★ 75 - RMF Page Data Set Activity
    - ★ 76 - RMF Trace Activity
    - ★ 77 - RMF Enqueue Activity
    - ★ 78 - RMF Virtual Storage and I/O Queuing Activity
    - ★ 108 - Domino Server Statistics
  - Collect All Subtypes

  Note 1: For normal operation the interval should be 1/2 hour to 1 hour. If you are reporting a problem, please set this interval to 5 minutes.

  Note 2: SMF type 92 "OpenMVS File System Activity" records may be needed depending on the type of problem you are shooting. These records are intensive to produce. Please add type 92 records for data gathering only if we have specifically asked for it.

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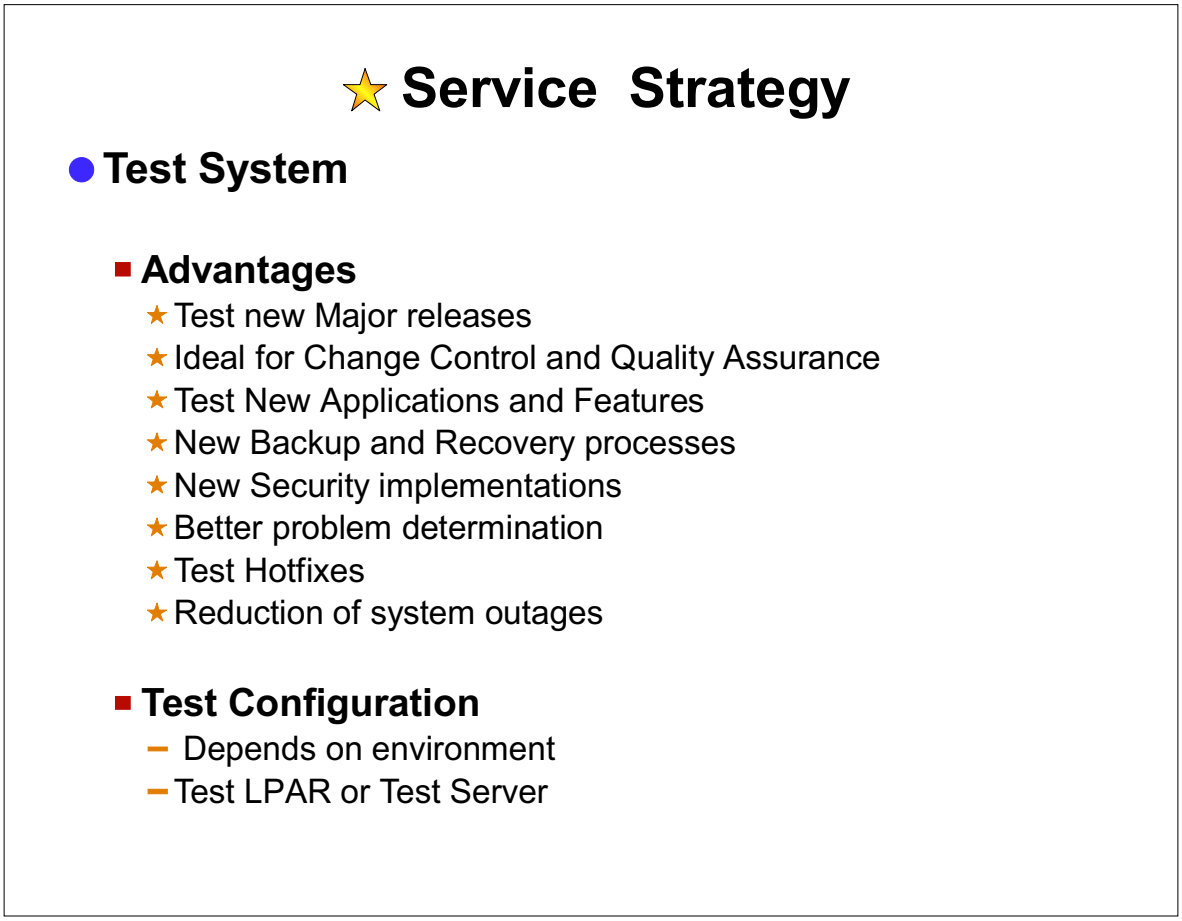

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★ Service Strategy

- Operating System Service Strategy
  - IBM recommends that you install Recommended Service Upgrades (RSUs) every three months if possible.
  - Review current HIPER and PE PTFs as part of your preventive maintenance policy and roll them into production monthly.
- Domino Service Strategy
  - Maintenance Release (MR) Code revision, additional fixes
  - Maintenance Update (MU) A collection of **critical fixes** on an as-needed basis
- Third Party Software
  - For any third-party software that is running in a Domino environment, you will need to contact that vendor for any application fixes that may be needed.
- Run the PTF Checker Tool
  - The PTF Checker should be run every time it is updated by the Domino Development team.
  - Register to be notified when the tool is updated.
  - http://www.ibm.com/servers/eserver/zseries/software/domino/servchoice.html

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★ Backup & Recovery Strategy

- Notes-based database replication
- UNIX archive commands (tar)
- OS/390 backup utilities (dfdss)
- RVA based backup options
- Tivoli Storage Manger(TSM) and Tivoli Data Protection (TDP)
- USS based archive client

 - Lotus Domino for S/390 Running a Large Domino System

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★ Available Education

★ **Course Code: ES750 Domino for OS/390 Performance Tuning**

★ Improve the performance of Lotus Domino on OS/390. Monitor tools which can be used to identify bottlenecks and constraints that impact the performance of Domino. Learn how to analyze the output from these monitors. System and application parameter adjustments and tuning tools are examined which can be used to eliminate and reduce these Domino performance problems.

★ **Course Code: DOMP1 Domino z/390 Performance Update Workshop**

★ This class will deal with advanced topics on Domino z/390 performance. This hands-on workshop is constructed to allow both the Notes Administrator and the Systems Programmer to work as a team looking at the 'end-to-end' performance characteristics of a system. If the students submit a two hour sample of their RMF/SMF data over a three-day period two weeks prior to the start of the class, then during the hands-on labs, the students will use their own data instead of a sample base system. Topics will be covered that include clustering, application/mail/http salability, Notes Administrator and System Programmer tuning and performance monitoring for problem determination and trend analysis.

★ **Course Code: ES850 Managing OS/390 and z/OS e-business Performance**

★ Today OS/390 and z/OS support new workloads running as e-business servers, including WebSphere, Domino, and Enterprise Resource Planning (ERP) applications. These workloads exploit the latest features of the OS/390 and z/OS runtime environments, including Parallel Sysplex, Workload Manager (WLM), and UNIX System Services (USS). This advanced course examines the performance management and monitoring components of the Parallel Sysplex / USS / WLM environment, using extensive Resource Measurement Facility (RMF) reports and console displays to understand what is happening in the system. Based on this foundation, case studies including e-business system applications such as WebSphere, Java, and Domino are analyzed in detail giving the individual a complete picture of z/OS and OS/390 e-business application performance.

★ **Course Code: ITS72 Problem Determination for Domino on S/390**

★ In this one day lecture course, the attendee learns how to manage problems in a Domino environment on the S/390 platform. We list the skills and teamwork needed to support this environment. We describe the environment and how to prepare it to avoid or minimize problems. We discuss some of the tools and techniques for finding and diagnosing problems and how to work with the support center to fix them.

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Additional Information

Discussion List: Send a note to LISTSERV@WVNVM.WVNET.EDU and include the following line in the body of the note: SUBSCRIBE DOM390-L. Subject: SUBSCRIBE DOM390-L

Domino for S/390 Home Page, provides valuable pointers to marketing and technical information. http://www.ibm.com/servers/eserver/zseries/software/domino/

Links to Technical Information for Lotus Domino on S/390
http://www.ibm.com/servers/eserver/zseries/software/domino/dom390_devinfo.html

List of required Service and PTF Checker for Domino S/390
http://www.ibm.com/servers/eserver/zseries/software/domino/servchoice.html

The latest documentation and macros.for SMF record type 108
http://www.ibm.com/servers/eserver/zseries/software/domino/smf.html

The Domino S/390 & Notes Doc Library can be found at
http://notes.net/doc

Lotus Notes/Domino KnowledgeBase
http://www.support.lotus.com/sims2.nsf/notesdocscat

C API toolkit
http://www.ibm.com/servers/eserver/zseries/software/domino/dom390_devinfo.html
http://www.lotus.com/developers/devbase.nsf/homedata/downloadlist

Additional Information

Lotus Redbooks
http://www.lotus.com/developers/redbook.nsf

UNIX System Services Home Page
http://www.ibm.com/servers/eserver/zseries/zos/unix

z/OS Internet library
On-line book manager for all OS390 and z/OS releases, pdf files are also available
http://publibfp.boulder.ibm.com:80/cgi-bin/bookmgr/LIBRARY

z/OS messages and codes database
http://www-1.ibm.com/servers/eserver/zseries/zos/bkserv/

LookAt
LookAt is an online facility that enables you to look up explanations for z/OS messages and system abends. Using LookAt to find information is faster than a conventional search because in most cases LookAt goes directly to the message explanation.
http://www.ibm.com/servers/eserver/zseries/zos/bkserv/lookat/lookat.html

Domino for S/390
Questions and Answers

www.ibm.com/servers/eserver/zseries/software/domino/