CRONUS CONSULTING (PTY) LTD.

Linux Guideline and Setup Information Document

(RHEL 8.5 64bit)

Contents

Linux Setup

1. O/S Packages

- ✓ `yum -y install glibc.i686`
- ✓ `yum -y install make, gcc-c++ make`
- ✓ `yum -y install unzip`
- ✓ `yum -y install ncompress`
- ✓ `yum -y install wget`
- ✓ `yum -y install sysstat`
- ✓ `yum -y install bind-utils,binutils`
- ✓ `yum -y install traceroute`
- ✓ `yum -y install mlocate`
- ✓ `yum -y install ncurses-compat-libs`
- ✓ `yum -y install libnsl`
- ✓ `yum -y install libnsl.i686`
- ✓ `yum -y install elfutils-devel.i686`
- ✓ `yum -y install libxcrypt.i686`

2. Kernel Changes

- ✓ **ipcs -lm**

------ Shared Memory Limits --------
max number of segments = 4096 <--- this is **SHMMNI**
max seg size (kbytes) = 67108864 <--- this is **SHMMAX**
max total shared memory (kbytes) = 17179869184 <--- this is **SHMALL**
min seg size (bytes) = 1

- ✓ vi /etc/sysctl.conf

Add this in /etc/sysctl.conf and reload the kernel. (minimum)

- ✓ kernel.shmmax = 2147483648 (this is 2GB as example but check max memory and adjust shmmax 50% of that is possible)
- ✓ kernel.msgmnb = 65535
- ✓ kernel.msgmax = 65535
- ✓ kernel.msgmni = 65535
- ✓ kernel.sem = 2500 768000 100 128

Temporary load kernel parms to validate.
(Example below shows 2 GB shmmax – increase as needed)

- ✓ sysctl -w kernel.shmmax=2147483648
- ✓ sysctl -w kernel.msgmnb=65535
- ✓ sysctl -w kernel.msgmax=65535
- ✓ sysctl -w kernel.msgmni=65535

- ✓ **sysctl –p** → to load the new kernel parameters immediately based on sysctl.conf file.

Adabas requires increased System V resources. Please refer to the Software AG installation documentation for detail on how to configure the Kernel parameters. You can check your current settings by using the command **showipc -s**. In the following, the resources required for Adabas are described.

Note that there are also other processes running on your system that require IPC resources. Therefore, you must add the IPC resources required by the other processes to parameters that describe a system-wide maximum number or size of resources.

For parameters that describe the maximum size of a resource, the value must, of course, be large enough for the other processes.

Example Kernel IPC configuration: (showipc -s)

```
SHMMAX:    8589934591 MSGMAP:       16384 SEMMAP:       32000
                      MSGMAX:       65535 SEMMNI:        2048
SHMMNI:          4096 MSGMNB:       65535 SEMMNS:      512000
                      MSGMNI:       65535 SEMMNU:       32000
                      MSGSSZ:          16 SEMMSL:        2400
                      MSGTQL:       16384 SEMOPM:         120
                      MSGSEG:       16384 SEMUME:          32
                                          SEMVMX:       32767
                                          SEMAEM:       32767
```

SHMMAX	The size of SHMMAX limits the size of the Adabas buffer pool and the number of attached buffers (LBP and LAB nucleus parameters). For all databases - select the maximum value of (750 KB + LAB + LBP)

Refer to the Software AG system requirements documentation for detail.

3. JAVA JDK (Optional)

To see a list of all available JDK on the system type the following command:

- ✓ `yum search java | grep -i --color JDK`

Where:

`java-1.7.0-openjdk` - OpenJDK **Runtime** Environment

`java-1.7.0-openjdk-devel` - OpenJDK **Development** Environment

Install Java SDK on a CentOS Linux if you <u>do not</u> already have it installed

- ✓ `yum install java-<version>-openjdk java-<version>-openjdk-devel`

RHEL and CentOS Linux install OpenJDK into /usr/lib/jvm/ directory

- ✓ `ls -l /usr/lib/jvm/`

Set the `JAVA_HOME` to the directory containing a bin/java executable using export command:

- ✓ `export JAVA_HOME=/usr/lib/jvm/jre-<version>-openjdk.x86_64`

Open the shell configuration file such as $HOME/.bashrc and at the bottom of the file, type the following line:

- ✓ export JAVA_HOME="/usr/lib/jvm/jre-<version>-openjdk.x86_64"

