Setup and Configure
Samba
on
AIX

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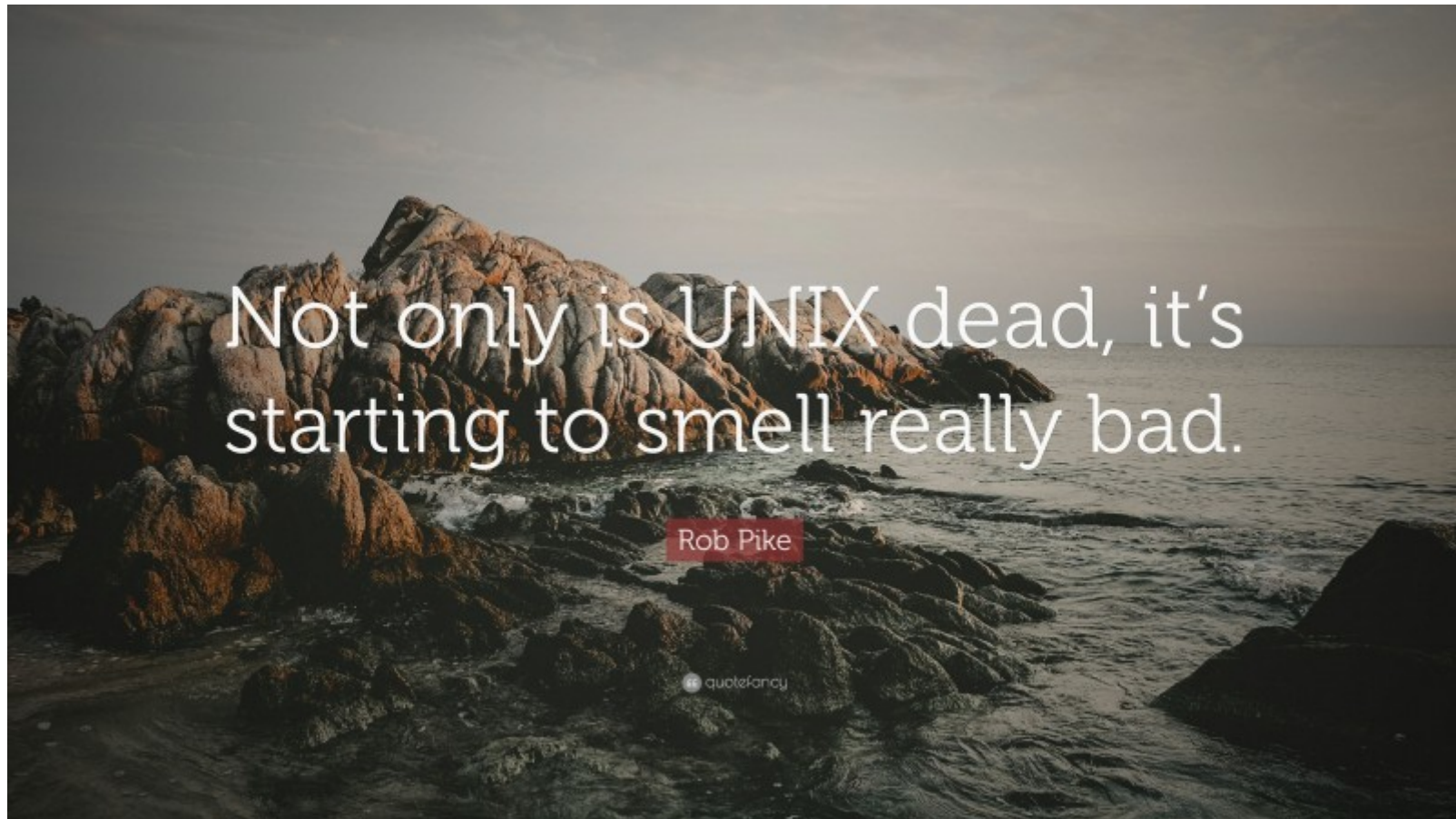bj@sernet.de

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UNIX ... really?

- Isn't there just Linux and *BSD left?

- Almost all (commercial) UNIX flavors died, yes: IRIX, Tru64, HP-UX, ...

- Solaris had some enthusiastic fans but it suffered from being owned by Sun in the past and this didn't improve a lot since Oracle holds it

SEPTEMBER 1992   COMPUTING GOES OPTICAL   PAGE 168

BYTE
THE WORLDWIDE COMPUTING AUTHORITY

Best New Notebook
Pages 238, 249

Is Unix Dead?

Unix is at a crossroads. Soon, Unix will face its most powerful adversary to date: Microsoft Windows NT. Will Unix survive?

Turn to page 134

Major Upgrades for Ami Pro and PowerPoint

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Necrophilia

Not only is UNIX dead, it's starting to smell really bad.

Rob Pike

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AIX is actually still alive

- AIX 7 is what Linux distributions call „rolling release" these days

- Not a lot of glitter, bells and whistles

- No fan boys (m/f/diverse) like Solaris used to have them

- Mature and stable OS base

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Who uses AIX ?

- Companies that can afford the hardware and maintenance prices of IBM :-)

- Those who don't end up in hospital while doing the required stuff on the ibm.com web sites

- Companies, who used to do so in the past and who don't want to learn from scratch how to manage a new version of their Linux distribution every 2 years ;)

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OSS on AIX ?

- Most people can't live without some basic Tools like VIM, Bash and other some GNU tools

- There used to be Bull Freeware but that disappeared

- There is AIX OSS Toolbox from IBM. Here you find OSS packages compiled as-is but without any guarantees or vendor support

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Samba ... yes!

- Like the quality of a Samba box on Linux depends on who created and maintains the Samba packages, the same applies to Samba on AIX

- We (SerNet) got several requests to support SAMBA+ also for AIX

- Since 2020 SerNet offers also fully supported SAMBA+ for AIX (https://samba.plus/samba-aix)

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Package-Installation

```
# rpm -e "samba*" (or installp -u samba ...)

# gunzip < sambaplus-4.16.1-1.aix7.tar.gz | tar xvf -
x sambaplus-4.16.1-1.aix7
x sambaplus-4.16.1-1.aix7/README, 3957 bytes, 8 media blocks.
x sambaplus-4.16.1-1.aix7/VERSION, 14 bytes, 1 media blocks.
x sambaplus-4.16.1-1.aix7/sambaplus-bin.tar, 156231680 bytes, 305140 media
blocks.
x sambaplus-4.16.1-1.aix7/setup.sh, 1863 bytes, 4 media blocks.
x sambaplus-4.16.1-1.aix7/smb.conf.example, 477 bytes, 1 media blocks.

# cd  sambaplus-4.16.1-1.aix7

# ./setup.sh
…
# ln -s /usr/local/sambaplus-4.16.1-1.aix7 /usr/local/sambaplus

# cd /etc/rc.d/rc2.d
# ln -s /usr/local/sambaplus/init/winbindd.init S00winbindd
...
```

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Adjust basic OS settings

- Maximum number of groups per user:

  Query first:

  # lsattr -El sys0 -a ngroups_allowed

- Raise to the max:

  # chdev -l sys0 -a ngroups_allowed=2048

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Adjust basic OS settings

- Maximum number of characters for usernames

  Query first:

  # lsattr -El sys0 -a max_logname

-

  Raise to the max:

  # chdev -lsys0 -a max_logname=256

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Reboot / **Restart** / **IPL**

The previous basic OS settings don't become effective immediately but you should **really** get them effective. You will probably see weird Samba or Winbind errors otherwise!

So ...

- On bare metal or WPAR: Reboot the host now!

- In a Logical Partition: Reboot the LPAR now!

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Adjust methods/LAM

- Replace or add WINBIND section in /etc/methods.cfg

```
WINBIND:

    program = /usr/local/sambaplus/lib/WINBIND

    program_64 = /usr/local/sambaplus/lib/WINBIND64
```

- Enable WINBIND system authentication (not required for SMB fileserver authentication):

```
# chsec -f /etc/security/user -s default -a "SYSTEM=compat or WINBIND"
```

Enhanced OS settings

- Enable EAv2 support (recommended!)

  Benefits:

  → EA support

  → NFS4 ACL support

  # chfs -a ea=v2 /yourpartition

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Back to „normal" Samba

- Create basic smb.conf in /var/sambaplus/etc/

```
[global]
        realm = ad.example.com
        workgroup = ad
        security=ads
        Idmap config * : range = 10000-99999
        idmap config AD : backend = rid
        idmap config AD : range = 100000-199999
        winbind separator = +
```

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Join your Active Directory

- Check hostname, IP and correct DNS server

- Check that no old smbd or winbindd processes are running

- Finally join the domain:

  # /usr/local/sambaplus/bin/net ads join -U "my admin account"

  Using short domain name -- AD

  Joined 'POWER' to dns domain 'ad.example.com'

  ...

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Winbind on AIX

- Start Winbindd:
  # /usr/local/sambaplus/init/winbindd.init start

- Testing Winbind:

  # /usr/local/sambaplus/bin/wbinfo -t

- Testing the WINBIND methods.cfg module:

  # lsuser AD+administrator

AD+administrator id=100500 pgrp=AD+domain users
groups=100500,100513,100512,100572,100518,100519,100520,10001,10000 home=/home/AD/administrator shell=/bin/sh
gecos= login=false su=true rlogin=true daemon=true admin=false sugroups=ALL admgroups= tpath=nosak ttys=ALL
expires= auth1=SYSTEM auth2=NONE umask=22 registry=WINBIND SYSTEM=compat or WINBIND logintimes= loginretries=0
pwdwarntime=0 account_locked=false minage=0 maxage=0 maxexpired=-1 minalpha=0 minloweralpha=0 minupperalpha=0
minother=0 mindigit=0 minspecialchar=0 mindiff=0 maxrepeats=8 minlen=0 histexpire=0 histsize=0 pwdchecks= dictionlist=
default_roles= efs_initialks_mode=admin efs_keystore_algo=RSA_2048 efs_keystore_access=file efs_adminks_access=file
efs_allowksmodechangebyuser=true efs_file_algo=AES_128_CBC fsize=2097151 cpu=-1 data=1262144 stack=65536
core=2097151 rss=65536 nofiles=16000 roles=

Starting smbd finally

If you made sure that all the Winbind stuff looks cool, **then**:

- Create a share like:

[test]

    path = /tmp

    read only = no

- /usr/local/sambaplus/init/smbd.init start

- Access the server from a Windows client and check the results in /tmp

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Forget old limitations!

- Make use of Winbind's ability to provide domain users and groups on the fly!

- You have a *mature OS* with a *modern filesystem* with standardized NFS4 ACLs!

  Make use of those and don't stick with config hacks from previous decades!

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Thank you ...

Questions?

Feel free to mail me at Björn Jacke <bj@sernet.de>

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