Making Friends with LCFG

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"When in doubt wear red."

Bill Blass

Introduction

- Linux in GeoSciences

- Why use LCFG?

- Transition Problems

- Solutions?

- Will we continue?

"In order that some sense of mystery should still be preserved, no revelation will yet be made concerning whose upper arm sustained the bruise."

Douglas Adams

Linux in GeoSciences

- 100+ Linux clients

- Dozens of rack-mounted servers

- Previously (nearly) all "managed" by *gits-config*

"It takes half your life before you
discover life is a do-it-yourself project."

Napoleon Hill

What is *gits-config*?

- A bunch of scripts, mainly bash and perl

- Very small initial learning curve

- Minimal boiler-plate

- Keep it simple...

"Bunny boiler is now part of our language, and I'm proud of that."

Glenn Close

What's wrong with *gits-config*

- Many assumptions about initial state

- Relies on blunt upstream tools

- Requires development time

"I went to a bookstore and asked the saleswoman, 'Where's the self-help section?' She said if she told me, it would defeat the purpose."

George Carlin

The promise of LCFG

- Well understood frame-work

- Others solving the same problems

- Few assumptions about initial state

- We already know what we want configured

"The man who is a pessimist before 48 knows too much; if he is an optimist after it, he knows too little."

Mark Twain

Culture Shock

- Install everything everywhere ~2500 RPMs

- Know what you want to install!

- RPM (inter-)dependencies

- 32-bit libraries on 64-bit machines

"I am not young enough to know everything."

Oscar Wilde

Making Friends

friends.friends   lcfg

!friends.friends_lcfg mADD(lcfg_shane)

friends.type_lcfg_shane   heard of

friends.ability_lcfg_shane   none

"He has no enemies, but is intensely

disliked by his friends."

Oscar Wilde

Transforming IPTables

```
:from-edlan
  -j allow-smb


:allow-smb
  -p tcp -m tcp -m state --state NEW --dport 445 -j ACCEPT
  -p tcp -m tcp -m state --state NEW --dport 139 -j ACCEPT
```

"Real programmers can write
assembly code in any language."

Larry Wall

Despair

~~friends.type_lcfg_shane   hate it~~

friends.ability_lcfg_shane   novice

!friends.type_lcfg_shane mSET(hate it)

!friends.ability_lcfg_shane mSET(novice)

"There is no despair so absolute as that which comes with the first moments of our first great sorrow, when we have not yet known what it is to have suffered and be healed, to have despaired and have recovered hope."

George Eliot

IPTables Rescued

```
#define IPTABLES_CHAIN_FILE(p,c,f,v)          \
!iptables.p mADD(c)                            ¢\
!iptables.rules_/**/c mSET(f)                  ¢\
!file.files mADD(iptables_/**/c)               ¢\
file.file_iptables_/**/c IPTABLES_DIR/f        ¢\
file.type_iptables_/**/c literal               ¢\
file.tmpl_iptables_/**/c v
```

"For every complex problem there is an answer that is clear, simple, and wrong."

H. L. Mencken

IPTables Sorted

IPTABLES_PRECHAIN(allow_smb, \
    IPTABLES_ACCEPT_TCP(445)\n\
    IPTABLES_ACCEPT_TCP(139))

IPTABLES_ADD_JUMP(from_edlan,allow_smb)

"To me style is just the outside of content, and content the inside of style, like the outside and the inside of the human body. Both go together, they can't be separated."

Jean-Luc Godard

Relief

!friends.type_lcfg_shane mSET(wary)

!friends.ability_lcfg_shane mSET(coping)

"Problems are not the problem; coping is the problem."

Virginia Satir

Lessons

- Header files are building blocks

- CPP macros are your friend

- Some things are just messy

- Communication is good

"If you must hold yourself up to your children as an object lesson, hold yourself up as a warning and not as an example."

George Bernard Shaw

In Service

- A dozen desktops – mostly Dell 755s

- New servers

- Transferring applications...

"It's the same each time with progress. First they ignore you, then they say you're mad, then dangerous, then there's a pause and then you can't find anyone who disagrees with you."

Tony Benn

Resistance is Futile

```
#define MYTEAM(u)                                          \
!friends.friends_lcfg mADD(lcfg_/**/u)         ¢\
!friends.type_lcfg_/**/u   mSET(user)          ¢\
!friends.ability_lcfg_/**/u mSET(get used to it)
```

"Change will not come if we wait for some other person or some other time. We are the ones we've been waiting for. We are the change that we seek."

Barack Obama

Conclusion

- LCFG feels "rough" inside ...

- ... but it does do what we want

- We can benefit from the efforts of others

- We can contribute too!

"A conclusion is the place where you got tired thinking."

Martin Henry Fischer