Is Samba 4 AD Ready for Global Enterprise?
It is... with the ONE WEIRD TRICK [click here]
But first...
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About

- Windows 95 converted me to Linux
- Software Engineering at RIT, BS CS from Mercy College
- 11 years of Systems Administration
  - Linux SysAdmin
  - Windows SysAdmin
  - B2B SMB consulting
About Indeed
We help people get jobs.
Key Metrics
I help people get jobs.
But really, how about you?
This is for you.
You

- Samba Team
- Samba Developers
- Samba Users
- Enterprises without Active Directory willing to try Samba
- Organizations with a vested interest in Samba
Why does this matter?
Why Active Directory?
Minimum Level of Competency

- IT Support staff familiar with RSAT
- Microsoft tools are well documented
- No command line knowledge required.
Application Integration

- OneLogin
- Sophos Enterprise Console
- PacketFence
- Pretty much any application that supports external authentication
MSCHAPv2 and 802.1x

- For user-based 802.1x, PEAP-EAP-MSCHAPv2 is the universally supported method, despite its insecurity
- No more Pre-Shared Key wifi!
- Ability to map username to IP
Why not Microsoft?
Microsoft Licensing

- Few people truly understand this black magic
- OS licensing, plus CALs
- All users that could use a DC must have a CAL, all servers must have CALs
- For example: 5000 users, 50 servers, at $16/CAL
  - 5000 x 50 x $16 = $4M
Microsoft Client Access Licenses (CALs)

Q2 - If I have guests that come into my office temporarily use a Windows DHCP server to grab an IP address to access the Internet, do they need CALs? I guess the takeaway is to never use a Windows DHCP server?

A2 - Yes, they are using a Windows Server service and would need a CAL.

https://blogs.technet.microsoft.com/volume-licensing/2014/03/10/licensing-how-to-when-do-i-need-a-client-access-license-cal/
Indeed Culture

- Start-up mentality
- Generally Build over Buy
- No Vendor Lock-In
- Very Pro-OpenSource (http://opensource.indeedeng.io/)
  - Proctor
  - Imhotep
Does it Work?
Samba 4.0 to Samba 4.2
Small Beginnings

- An intern project in the summer of 2013
- Largest office with 95%+ Windows 7 clients
- 2 Domain controllers
NETLOGON and GPO

- Password Complexity - No more auto-login with passwordless Windows accounts
- ScreenSaver settings
- Windows Firewall port control for Sophos
- But what else...
SUCCESS!

- Minor expansion
- FreeRADIUS
- SerNet RPMs (For free!)
- Let’s scale!
Expansion pains

- Fully meshed replication topology.
- "Denial of Service Distributed"
- We need help
- Who can help us?
Samba 4.3 to Samba 4.5
The Great Expansion

- From 12 DCs to 30+
- Regional replication hubs
- Bridgehead servers
- Linked attribute hell
- Deleted linked attributes
Samba 4.6 and beyond
Scaling out

- DCs joins during business hours!
- Domain joins ~ 30-45 minutes
- 45 domain controllers on 5 continents
- 6,252 User/Group objects, **37,625 group memberships**
The future

- More performant replication
- Better KCC controls
- Better audit logging
- 2012 Schema
- Maybe SYSVOL replication?
So is it ready?
My Opinion

- It’s not a 100% complete drop-in replacement for AD
- It’s close enough, and if that’s acceptable, then it is
My Suggestions

- Support Contract
- Sponsor Development
- Monitoring
  - Health Checks
  - Log aggregation
Current Issues

- Documentation is shifting sand
- Joining DCs in rapid succession is still very error prone.
- KCC inconsistent
All in all
Active Directory is here to stay

- Widespread adoption and almost universal integration
- It really has become a standard enterprise product.
- We can’t kill off Windows client devices.
  - MS Office on Windows is preferred by power Excel users
  - Many Network Admin tools are Windows-based
- And Samba can be a viable alternative if...
Your Organization:

- Can tolerate authentication system failure(s).
- Can quickly respond to outages.
- Can afford to pay for support and development.
Thank you
Thank you

- Catalyst
- SerNet
- Samba community
- And Indeed
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Q & A