

Is Samba 4 AD Ready for Global Enterprise?

It is... with the ONE WEIRD TRICK [click here](#)

But first...

Disclaimer

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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
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jobs.**

Key Metrics

**I help
people
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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

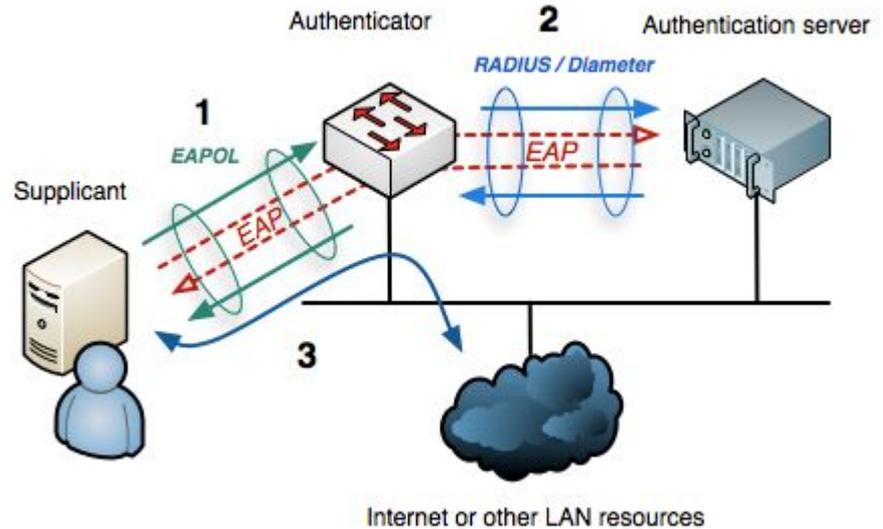
- IT Support staff familiar with RSAT
- Microsoft tools are well documented
- No command line knowledge required.

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
(<https://www.cdw.com/shop/products/Microsoft-Windows-Server-Client-Access-License-User/488489.aspx>)
 - $5000 \times 50 \times \$16 = \$4M$

Microsoft Client Access Licenses (CALs)

Q2 - If I have guests that come into my office and 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

