Small
Enterprise
Server

Toshaan
Bharvani -
Trilands bvba

Small Enterprise Server
Comparison

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Trilands bvba

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General overview

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- Server software solution
  - All-in-one
  - Easy to install
  - Easy to manage
- Client integration :
  - Be able to support all clients
  - User friendlyness
  - Single sign on

- Small & Medium Enterprise size :
    - 1-3 users (free)
    - 3-20 users (standard)
    - 20-75 users (professional)
    - 75 users and upwards (enterprise)

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Software Architecture table

- Operating System : Linux (CentOS, RHEL, Ubuntu, . . .)
- User Management : OpenLDAP
- MTA : Sendmail (Postfix)
- Collaboration/MDA : Zarafa
- Web Server : Apache
- Application Server : Tomcat
- Document Management : Alfresco
- CRM : SugarCRM
- File & Print Server : Samba (NFS) & CUPS
- FTP Server : vsFTP (ProFTPd)
- Remote connection : OpenVPN
- Firewall : iptables

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Technical setup

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Operating system

- Linux : Enterprise version
  - CentOS
  - Redhat Enterprise Linux (RHEL)
  - Ubuntu LTS
  - SuSE Linux Enterprise Server (SLES)
  - (Debian)
- Comprehensive software packages
- Long livespan (API/ABI)
- Security & Stability

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User management

- Central user / identity management
- LDAP standard (X.500 standard)
    - OpenLDAP
    - Redhat Directory Server (CentOS / Fedora)
    - Sun Directory Server
    - Apache Directory Server
    - Microsoft Active Directory
- Contains user information
- Contains identity of user

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File & Print services

- Samba File Server
  - File server for Windows, Mac OS, Linux, Unix, . . .
  - Full file server
- CUPS Print Server
  - CUPS print server
  - Samba connector for integration into Windows and Mac
- NFS
  - Shared filesystem for Linux/Unix clients

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Web hosting

- Apache web server
    - Most used web server
    - Modules to extend more functionality
    - Web programming / scripting languages
        - php, Perl, python, . . .
- Tomcat Application server
    - Java Application server
    - Integration with Apache

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Email solution

- MTA : Sendmail / Postfix
    - Secure email server
    - Integration with LDAP (central user mangement)
- MDA : Zarafa
    - Support for : **MAPI**, POP, IMAP, CalDAV
    - Outlook integration through MAPI
    - MAPI is a standard, but not open
    - Zarafa Webaccess is similar to know user-(un)friendliness
    - MySQL backend
    - MTA frontend required (Sendmail)

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Document Management

- Alfresco Enterprise Content Management
    - Document management with Sharepoint support
    - Content management system
    - Integration with LDAP for central user management
    - Integration with Outlook, Zarafa Webaccess
    - Requires : MySQL (PostgreSQL), Java JDK, Tomcat
    - Other competition open and closed

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CRM Solution

- SugarCRM
  - Most used Customer Relationship Management software
  - Important to business
  - Integration with LDAP for user management
  - Integration with Zarafa through Z-Merge
  - Integration with Outlook and Zarafa Webaccess
  - Requires MySQL, php
- Other packages are bulky and big

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External connections

- OpenVPN
  - Connect to the internal network
  - Secure through encryption
  - Full access as on the internal network
- Proxy
  - Private connection over internet
  - Secure connection for getting to internal system
  - Limited to what is predefined
- Port forwarding
  - Connection to internal port over SSH or Proxy
  - Limited to one port per connection

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Virtualization

- XenSource Xen kernel (provided by distribution)
- KVM integrated into kernel (provided by distribution)
- OpenVZ addition possible
- VMware ESX(i)
- VirtualBox

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Business case

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Assumptions

- Small enterprise of 20 people
- Internet connection with fixed IP
- Domain name with external DNS management
- Routing function
- Server hardware identical for all software setup
- Clients are already functional with Microsoft Office (incl Outlook)

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License

- Microsoft Small Business Server
    - Server System license fee
    - Server Client license fee (CAL)
    - Client Software license fee
- IBM Lotus Foundation
    - Server System license fee
    - Server Client license fee
    - Client Software included with client license
- Small Enterprise Server
    - CHOICE (is confusing for some)
        - Server System license
        - Server Client license
        - Client Software license

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License Fee Overview

	MS Windows SBS Standard	IBM Lotus Foundation	RHEL Zarafa Professional	CentOS Zarafa Profesional
Server license	550 euro (incl 5 CAL)	221 euro	279 euro	0 euro
Client license	1350 euro (15 CAL)	3024 euro (21 CAL)	560 euro	560 euro
Total	1850 euro	3245 euro	838 euro	560 euro

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- Linux Consultant is more expensive
- Linux distribtions takes less time to install
- Additional software is available through single software tool (yum, apt, . . .)
- Average Linux system administrators know something about Windows (not true in reverse)

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Setup Costs Overview

	MS Windows SBS Standard	IBM Lotus Foundation	RHEL Zarafa Professional	CentOS Zarafa Professional
Time	6 hours	2 hours	5 hours	5 hours
Price/ hour	50 euro	150 euro	100 euro	100 euro
Total	300 euro	300 euro	500 euro	500 euro

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Maintenance

- Server Software lifespan
  - Microsoft : 3-5 years
  - IBM : customer based
  - Enterprise Linux : 5-7 years
- Downtime
  - Linux : 0.5% more uptime
  - 180 euro per month saving with Linux
  - Price of loss of image/business ?

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Conclusion

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The bottom line

	MS Windows SBS Standard	IBM Lotus Foundation	RHEL Zarafa Professional	CentOS Zarafa Professional
License	1850 euro	3245 euro	838 euro	560 euro
Setup	300 euro	300 euro	500 euro	500 euro
Total	**2150 euro**	**3545 euro**	**1338 euro**	**1060 euro**

- Cheaper
- Better
- Faster
- $\implies$ More possibilities available

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The End

Hvala

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