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{ SeCom Server solutions and management }

Hardware Components And Basic Server Settings

- Server selection and ordering.
- Consultations and assistance in upgrading current equipment.
- Diagnostics of hardware using IPMI/KVM/IDRAC/SuperMicro, etc. + Rescue (Virtual media), MemTest, SMART.
- BIOS setup/update as well as IPMI/IPKVM/IDRAC/SuperMicro platforms.
- Testing the equipment accuracy.
- Management and AS binding of IPv4, IPv6 subnets, with any prefixes, subnet distribution, as well as their configuration in RIPE + implementation of rDNS for subnets.
- LIR management in the RIPE system.
- Basic configuration and monitoring of network equipment.
- Structuring and management of hardware components, as well as equipment and network management (FortiVPN, LibreNMS, racktables, IPManager, DCImanager, PXE, iPXE, etc.).
- Work with disks, raid controllers, JBOD.
- Disk diagnostics (SMART), assistance with their replacement, and RAID reconfiguration.
- Hardware raid controllers, their configuration and settings (Dell PERC, LSI MegaRAID, Intel RAID Controller, etc.).
- JBOD – configuration, integration, monitoring and support.

Installation/Deployment/Migration Of Operating Systems And Updates

- OS selection (depending on the purposes for which the server is planned to be used). We have skills in installing and working with the following OS's: CentOS, RockyLinux, AlmaLinux, RedHat, CloudLinux, Debian (KaliLinux), Ubuntu, Windows (Desktop + Server), Fedora, Oracle Linux, openSUSE, RouterOS, FreeBSD, etc.
- For some distributions (which support it), we perform updates between version releases.
- Installing the OS, using various methods:
- With ISO, using remote management systems IPMI/IPKVM/IDRAC/SuperMicro etc.
- Rescue + VNC installation (we also have such skills, we use them in cases where there are no other possibilities).
- Deploying from a disk copy, conversion, and dual conversion from formats (RAW, QCOW, QCOW2, VHD, VDI, VMDK, etc.).
- Implementation of individual settings during OS installation.
- Setting up a specific disk layout (MBR, GPT).
- Setting the proper operation of Boot, UEFI boot.
- Organization of the VG + LVM structure.
- SOFT RAID (mdraid) configuration of all levels.
- Installation of various disk partition encryption algorithms.
- Migration/cloning of servers.
- Copy all settings between two virtual or dedicated servers.
- Migration from a virtual server to a dedicated one and vice versa.
- Byte-by-byte copying of the server disk (disk imaging), with its further deployment.

Work With Virtual Servers And Containers VPS/VDS/Docker

- Setting up master/slave nodes for various virtualization on systems: ProxMox, Virtualizor, VMware ESXi, Hyper-V, SolusVM, VEmanager, VMmanager, etc.
- Virtualization services: KVM, Hyper-v, LXD/LXC, Docker, OpenVZ, OpenVZ7, Xen, Wmware, Virtuozzo, etc.
- Turnkey server projects for automating the creation of virtual servers for commercial purposes, and integration with various billing systems (WHMCS, BillManager, etc.).
- Configuration of OS templates, different versions, or with specific settings.
- Development of solutions for automation of POST scripts for automatic configuration of virtual servers, according to client requirements.
- Deploying and maintaining Docker containers.
- Organization of Docker container management systems (WEBUI) using systems: Portainer, Kitematic, DockStation, Shipyard, etc.
- Backup configuration of virtual and container systems, and automation of this process.
- Migration and cloning of virtual servers and containers between different physical servers.
- Migration of virtual servers between different types of virtualization and hypervisors.

Server Installation & Configuration Software

Control panels and other comprehensive solutions for server management

- Installation, configuration, update, modification of control panels such as: cPanel, Plesk, DirectAdmin, ISPConfig, Virtualmin, Webmin, VestaCP, HestiaCP, CentOS Web Panel, ISPmanager, etc.
- Deployment and configuration of servers to work with such software as: Keitaro, BitrixVM, BitrixCRM, etc.

Development of failover systems, WEB project balancing systems

- Selection or creation of an appropriate scheme, depending on the need: traffic balancing or fault tolerance.
- Implementation of the traffic distribution system using proxy technologies (Nginx, HAproxy, etc.)
- Security organization. Traffic proxying to the local network + organization of NAT. Organization of personalized SSH tunneling using JumpSSH, SSHmenu, etc.
- Implementation of centralized logging of all system elements (GrayLog, ELK Stack, Loggly, Fluentd)
- Diagnostics and monitoring of all nodes (Nagios, Zabbix, Prometheus, Sensu, Cacti, NetData, Monit, Munin, Collectd, etc.).
- Organization of data synchronization between nodes (Git+GitLab Runner, LsyncD, Cron+Rsync).
- Implementation of sharding and data storage replication for management, search and database systems (MySQL, PostgreSQL, MongoDB, Redis, RabbitMQ, Elastic, ElasticHQ, Sphinx, etc.)
- Organization of backup copies of the entire system or its individual elements

Server Installation & Configuration Software

Security organization of server solutions

- Auditing and setting up access certification
- A set of actions to protect the server, open ports, and network protocols from bruteforce, flood, etc. attacks. (IPtables, IPsec, CSF, LFD, fail2ban, Firewallld, ufw, Windows Firewall, etc.)
- Integration and configuration of third-party CDN traffic analysis, filtering, and auditing systems, WAF: CloudFlare, DdosGuard, Barracuda WAF, AWS WAF, etc.
- Organization of control over the creation of users and other security elements, and implementation of notifications in case of violations.

Backup implementation for servers

- Organization of scheduled and branched backups (incremental, differential, full).
- Organization of scheduled data transfer using services and technologies (LsyncD, Rsync, RsnapShot, FTP, SSH, NFS, etc.).
- Data storage: Amazon S3, MS OneDrive, Google Disk, ownCloud, Nextcloud, etc.
- Creation of personal NAS data storage systems based on FreeNAS, ownCloud, Nextcloud, etc.
- Creation of triggers for control and monitoring of copy creation

Server Installation & Configuration Software

Working with VPN networks and tunneling + proxying.

- Configuration, organization and support of software for working with protocols VPN: WireGuard, OpenVPN, L2TP, IPsec, IKEv2, PPTP, SSTP, MS-SSTP, L2TPv3, EtherIP)
- Setting up the UI + WEBUI interface for managing VPN protocols: PUQVPNCNCP, wireguard-ui, SoftEther, etc.
- The ability to manage individual VPN users, as well as the organization of bandwidth control and the amount of traffic consumed for each individual user.
- Proxy service organization with support for protocols: SOCKS v4/v4a/v5, HTTP, HTTPS, FTP, POP3, SMTP, etc., and the possibility of additional authentication: SOCKS5 username/password, NTLM, LDAP, Kerberos and SSO, etc.. Based on 3proxy, nginx, haproxy.

Implementation of SIP telephony

- Configuring the SIP server on Asterisk + FreePBX
- Organization and management of users + departments
- Configuring call routing
- Development of personal monitoring triggers and their connection to the monitoring system with notifications, for example, control of traffic, bandwidth, and number of operators online using the monitoring system.

Server Installation & Configuration Software

Organization of the availability monitoring and control system

- Installation of monitoring servers and their configuration, as well as integration with servers from which information is collected, based on: Nrpe, Nagios, Zabbix, Prometheus, Sensu, Cacti, NetData, Monit, Munin, Collectd, etc.
- Organization of complex monitoring systems within a local network, with a multi-level access system.
- Writing individual monitoring scripts/triggers according to the needs of the client.
- Setting up individual notification systems for monitoring, for example by SMS or in social programs/ messengers: Telegram, Viber, WhatsApp, etc.
- Integration of monitoring systems with billing systems on the services of hosting providers.
- Template and automation of the connecting process for new monitoring points to the current monitoring structure.
- Implementation of the service of multipoint checking of the availability of websites in real time.

Server Installation & Configuration Software

Installation, update, or compilation from source files and configuration of software and services

- Web servers: Apache, Nginx, Engintron, Microsoft IIS, LiteSpeed, Google Web Server, OpenLiteSpeed, Lighttpd, etc.
- Database servers: MySQL, PostgreSQL, MongoDB, Microsoft SQL Server, Oracle Database, SQLite, MariaDB, Redis, etc.
- FTP servers: vsftpd, ProFTPD, Pure-FTPd, FileZilla Server, CrushFTP, Cerberus FTP, etc.
- Mail servers: Exim, Postfix, Sendmail, Qmail, Microsoft Exchange Server, etc.
- Processors: PHP, Python, Ruby, Node.js, Perl, Java, ASP.NET, Go, etc.
- DNS: Bind, Unbound, PowerDNS, Knot DNS, NSD, Dnsmasq, Microsoft DNS Server, Simple DNS Plus, MaraDNS, MyDNS etc.
- Server monitoring: Nrpe, Nagios, Zabbix, Prometheus, Cacti, NetData, Monit, Munin, Collectd etc.
- VPN: OpenVPN, SoftEther VPN, WireGuard, StrongSwan, OpenConnect, ZeroTier, IPsec, etc.
- Proxy: Squid, Nginx, Engintron, HAProxy, Apache Traffic Server, Varnish, Privoxy, Polipo, TinyProxy etc.
- CMS: WordPress, Joomla, Drupal, Magento, Shopify, PrestaShop, WooCommerce, Shopify, Magento, PrestaShop, OpenCart, TYPO3, Bitrix, KVS etc.
- Frameworks: Laravel, Ruby on Rails, Django, Express.js, AngularJS, Flask, Spring, Symfony, ASP.NET, Vue.js. etc.
- CDN: Cloudflare, Akamai, Amazon CloudFront, Fastly, MaxCDN, StackPath, KeyCDN, CloudFront, CDN77, Incapsula etc.
- Linux/system: – systemd, Upstart, OpenRC, runit, SysVinit, supervisord, Monit, Tmux, screen, atop, netstat, iftop, tcpdump, iptraf, nmap, rsync, lsyncd, ffmpeg, logrotate etc.

Work with data, task automation/orchestration, data version control systems, continuous integration, continuous delivery (VCS + CI/CD)

- Building centralized management (orchestration) systems for administration and control of numerous servers. Implementation based on: ansible, puppet, chef, etc.
- Development and integration of Ansible playbooks, Puppet manifests into the working environment.
- Configuration and integration of servers with data version control systems (VCS): Bitbucket, GitLab, GitHub.
- Створення персональної VCS структури на базі платформи GitLab Community Edition (CE) та ін.
- Installation and configuration of gitlab-runner in the CI/CD model.
- Creation of .gitlab-ci.yml and experience in debugging pipeline startup process.
- Building a dnd (docker in docker) structure for testing project deployment.

Cloud technologies (AWS, Azure, Google Cloud)

- Development of service architecture on AWS, Azure, Google Cloud.
- Fragmentation and defragmentation of server solutions, their integration into cloud services.
- Transferring ready-made server architectures to the cloud.
- Transferring projects from cloud architectures to regular dedicated servers.
- Work experience with: Amazon Elastic Compute Cloud (EC2), Amazon Virtual Private Cloud (VPC), Amazon Relational Database Service (RDS), Amazon Elastic Block Store (Amazon EBS), Amazon Workspace, Amazon Security Group, AWS Auto Scaling management, Elastic Load Balancing (ELB), AWS Elastic IP, AWS ElastiCache, AWS Cloud Search management, AWS CloudWatch management, Amazon (SES), Amazon Route 53 and Azure та Google Cloud.

Work With Sites And Domain Names

Domain names, registrars, transfer, DNS

- Help in registration, delegation (NS), DNS configuration of any domain zones
- Organization of extensive DNS work for the domain.
- Audit and fixing of all types of DNS records: A, AAAA, CNAME, TXT(SPF, DKIM, DMARC), PTR (rDNS), MX, SOA, SRV, etc.

WEB server, configuration, SSL, WAF

- Creation of the request processing architecture by the WEB server and processor.
- Building complex request branching schemes, for example: Apache + Nginx, Apache + Engintron, Nginx + PHPFPM, Nginx + Varnish + Apache, Nginx + uWSGI, Nginx + Apache + LSAPI (lsphp), LSW, etc.
- Creation of WEB server architecture, editing and debugging of configuration files of web services.
- Setting up complex rules of multi-level redirections, traffic distribution, restrictions on certain request indicators.
- Turnkey: web connection encryption using SSL. Achievement of maximum security criteria with HTTPS protocol.
- Automating the work of CertBot and other similar modules for the automatic generation of Let'sEncrypt certificates.
- Connecting sites to DDoS protection systems (CloudFlare, DdosGuard, Barracuda WAF, AWS WAF, etc.)
- Logging settings, debugging websites errors, building an individual log format, rotation, etc. problems with log files.



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Work With Sites And Domain Names

Sites and other works, CMS

- Site transfer/cloning, site migration to another domain name.
- Configuring fail-safe and traffic balancing systems for sites.
- Organization of complex solutions for creating a site backup system.
- CMS installation: WordPress, Joomla, Drupal, Magento, Shopify, PrestaShop, WooCommerce, Shopify, Magento, PrestaShop, OpenCart, TYPO3, Bitrix, KVS, etc.
- Setting up servers according to CMS requirements, or their updated versions
- Creation of a DEV environment for testing project settings, with complete duplication of project data.

Turnkey solution

KVS (Kernel Video Sharing)

- Full configuration of the server according to the requirements of the video content management system, video hosting KVS.
- Install and compile imagick, FFMPEG with all required libraries.
- Setting up all component servers, both on one server and building a branched structure, and setting up the distribution and balancing of tasks between them: Video conversion servers, Video storage
- Integration with YouTubeDl.
- Implementation of a content protection system.
- Backup system organization.
- Development and connection of the balancing, distribution and fault tolerance architecture of the project.

WHMCS (Web Hosting Billing & Automation Platform)

- A set of server settings for the billing system of hosting providers WHMCS
- Basic WHMCS settings, according to customer needs
- Creating services, setting languages, adding product groups and tariffs.
- Installation of integration modules for automatic creation of services on servers, their stopping, deletion, in case of relevant billing operations. For example, WHMCS has been integrated to work with: cPanel/WHM, SolusVM, ProxMox, Virtualizor, VMmanager, VEmanager, ISPmanager, etc.
- Integration of modules of domain name registrars.
- Tracking problems with the automation of billing system actions (for example, importing tickets, stopping services, etc.).