IPBrick Easy Linux – Advanced Networking

Number	Hours *	Title	Context	Requirements Constant	Requirements Specific	Overview	Objectives
1	3	**IPBRICK Installation**	IPBRICK	Trainer: - 1 board with writing material; - 1 projector; - 1 PC/server*; - 1 IPBRICK CD; - 1 laptop**; - 1 crossover cable*** 1m; - 1 switch (N+2)x 10/100 [N=number of trainees]; - 3 network cables 3~5m; - 1 internet access – ethernet. By trainee: - 1 PC/server*; - 1 IPBRICK CD; - 1 laptop**; - 1 crossover network cable*** 1m; - 2 network cables 2m. For each 2 trainees: - 1 switch 8x 10/100; - 1 network cable 3~5m; * RAM: 256MB; CPU x86; HDD: 10GB; LAN: 2x 10/100; CDROM; keyboard; monitor. ** w/ OS, web browser, LAN 10/100; soundboard. *** crossover.		- Course presentation; - IPBrick presentation; - IPBrick Installation Process; - First interaction with IPBrick and Linux.	1. What is IPBrick; 2. Minimum requirements for installation; 3. Automatic installation process; 4. Basic configuration and system interfaces; 5. Presentation of the web interface and the server's technical data; 6. Permanent license activation; 7. IPBrick's Advanced Installation; 8. Reinstalling the server; 9. Settings in IPBrick.
2	3	**Intranet & Groupware**	I			- IPBrick System Information; - Basic network topologies and IP addressing; - The IPBrick Domain; - Operations and Intranet services. - Groupware	1. Information on the IPBRICK System; 2. Addressing and network interfaces; 3. Basic network topologies; 4. Creating users and groups; 5. Registering machines; 6. Placing the PC in the IPBrick's domain; 7. Work areas. 8. IPBrick groupware concept
3	2	**Basic communications server**	C			Communication Server: - Identification of services; - Initial setup.	1. What is a communications server; 2. The position of the communications server on the network; 3. What is a Proxy and modes of operation in IPBrick; 4. What is a Firewall; 5. What is a VPN. 6. Working on a VPN.
4	3	**Complete Intranet**	I+C			- Integration of servers, + Intranet (IPBrick.I); + Communications (IPBrick.C). - Intranet Services: Fax, Print, Backup.	1. The network scheme with I and C servers 2. Distribution of services in the I and C servers 3. Interconnection of servers and services – customization services 4. Operation Fax server 5. Print server operation 6. What is Backup 7. Backup services present in IPBrick
5	2	**Master/Slave/Client Authentication**	Advanced			- Linking IPBRICK servers . - Authentication Modes, + Master - Slave – Client; - Scenarios basic application.	1. Authentication Modes: What are they? Who are they? 2. How to configure different authentication modes; 3. LDAP - Authentication Server 4. Automount - Distributed Filesystem 5. What is IPBRICK Master; 6. What is IPBRICK Slave; When to use; Advantages; 7. What is IPBRICK Customer; When to use; Advantages.
6	3	**Support Services: DNS e DHCP**	Advanced			- DHCP server, sub-network redundancy. - DNS server, private / public, master / slave: + Name resolution, Forwarders, Dominios.	1. What is DHCP; 2. What is the DNS; 3. DHCP Relay - DHCP server to different IP networks; 4. Configure a DNS domain 5. Set up a slave DNS server 6. Difference between: Name Resolution, Forwarders, DNS Server 7. Configure a DNS server for the Internet 8. Set up an internal DNS domain with public records
7	4	**AD Authentication**	Advanced		Trainer: - 1 MS Windows server 2003 R2 (domain controller)	- Integrating IPBRICK servers in MS Windows networks, + NetBIOS (pre Windows 200x) + Active Directory (IPBRICK Master / Slave)	1. Authentication Mode: NetBIOS; 2. LDAP - Active Directory 3. LDAP - AD - MS Services for Unix 3.5 4. LDAP - the Central Information System - Automount - Distributed FileSystem 5. Authentication Mode: AD Domain Member (IPBRICK Master) 6. Authentication Mode: AD Domain Member (IPBRICK Slave)
8	4	**Email Server**	I+C+Advanced		For each trainee: - 1 KAV Linux MailServer - 1 KAS Linux MailServer	- SMTP server, + IPBRICK features; + Operation of the SMTP server; + Relay server - DNS and static routes; + Anti-virus and anti-spam.	1. What is an e-mail; 2. IPBRICK features (aliases, mailing lists, auto-forwarding, auto reply, copy of email); 3. Valid internal recipients, invalid senders; 4. How does the SMTP service works; 5. The relay mail server; 6. Anti-Virus Operation; 7. Anti-SPAM Operation; 8. Diagnosis of the mail server on LINUX.
9	3	**Network: Firewall, Routes Management, QoS**	Advanced			- Communications Server - IP networks. + Routing, Firewall, QoS; - Referral services.	1. IP networks, inserting routes in IPBRICK; 2. Quality of Service - prioritization; 3. Firewall's operating principles - Layout; 4. Insert the firewall rules; 5. Identify and traffic rules in the firewall; 6. Referral services - multiple routers internet access.
10	2	**Parte 1 Proxy Parte 2 Servidor Web**	C+Advanced		For each trainee: - 1 KAV Proxy Server	- Proxy, Web Cache, ACLs + Content filtering, blacklists – squidguard + Anti-Virus - Servidor Web	1. Creating the Proxy Access Control Lists; 2. Content filter 3. Anti-Virus 4. User Statistics 5. What is the Web Server 6. IPBRICK applications (Calendar, Contacts, Webmail, Myipbrick, webphone, UCoIP, jwchat, PHPMyAdmin, PHPPgAdmin, CallManager) 7. Website creation 8. FTP Access
11	3	**VPN Server: PPTP, iPSec, SSL**	C+Advanced			- VPN, comparative PPTP, IPSec, SSL - The problem of addressing of IP networks	1. Concept of VPNs; 2. Road Warrior type of VPN's and LAN to LAN; 3. Comparison between different VPN's; 4. Configuration of the various types of VPN's; 5. IP addressing in VPN networks.
12	8	**UcoIP**	GT		Trainer and for each trainee: - 1 Headset Mic; - A SIP phone.	- IPBrick.G - Voice over IP - principles: SIP Server + - suppliers + Network Service: DNS and Firewall + IP PBX - principles of operation - UCoIP - IPBrick.GT - VoIP and telephony: + Hardware: analog line, ISDN (BRI and PRI); + Integration with a non-IP PBX;	1. Concept of VoIP and telephony; 2. Signaling protocols and SIP servers; 3. Proper configuration of DNS and firewall for VoIP; 4. IPBrick.GT: VoIP and integration with conventional telephony; 5. UCoIP concept and configuration 6. Access types: analog line, ISDN BRI and ISDN PRI; 7. Telephony cards for PSTN and PBX integration; 8. IPBrick configuration: telephony cards, interfaces, IP phones and alternative addresses; url SIP registration, configuration internal and external routes to operators SI / IAX, PBX IP features.