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Addendum 1: Case Studies

Case #1 – 2005, Fully Automated Remote Server Provisioning

At Research & Development at Panther-IT we are always looking for ways to improve productivity and time to delivery by automating as much as possible.
The daily life at Panther-IT involved mostly installing new servers with a standard Linux setup (average of 10 servers per month).
I decided to go with the RedHat Kickstart approach and with a NetBoot approach.
Setting up TFTP & PXE. Configurering kickstart and adding a lot of bash scripting to install our extra non-rpm software and management tools.
To be able to monitor and intervene remotely I've setup "Serial Console". Supported by every server motherboard, buying a serial i/o extender and setting up a console-server (Linux Debian + ConServer).
With this setup we created a fully Remote KVM + Virtual devices as seen in IPMI 2.0 these days.

Case #2 – 2006, Cluster product

As the head of Research & Development at Panther-IT I've been asked to develop a High-Availability Cluster product, first for one existing customer and later as a standard product.
Conforming to our software usage, being open-source Linux, I've chosen to go with the Linux-HA approach.
Version 1 for this customer involved 2 linux web-servers, running with the extra software:
* DRBD (in active/active-mode) for data replication
* GFS (with DLM) as it's Clustering File System.
* CSync for config replication
* MySQL Replication
* Heartbeat failover.

Version 2, to be used as standard building block products to be used for multiple customers:
* 2 Load-Balancers, SuperMicro servers, running Linux Debian + HA-Proxy
* 2 Storage-Nodes, SuperMicro NAS, running Open-E with DRBD Replication, iSCSI and NFS.
* 2 Database-Servers, Linux Debian + MySQL Replication

The server nodes where customer specific and could range anything from VMware, Windows or Linux.
We used this setup internally for our VMware cloud.

Case #3 – 2010, Infiniband

As a freelance consultant I've setup a SAN Storage Area using common hardware (customer requirements).

* 2 Storage-Nodes:
  * SuperMicro 24 HDD SATA 1TB, Areca RAID50
  * Mellanox ConnectX Infiniband
  * Linux CentOS + OpenFabric + SCST as SRP RDMA Target
  * DRBD 2x active/passive Replication

Case #4 – 2006..2010, Designing and Maintaining a national internet infrastructure

As the only Network Engineer (CCNA certified and Cisco experienced) at Panther-IT I had full control of designing and implementing our network infrastructure for our Internet Hosting environment.
Starting as a small company we began with the open-source Linux + Quagga approach on common-hardware with extra Fiber NIC's.
Quagga software provider routing software like BGP and OSPF. This performed extremely well.
We operated in 5 datacenters (Amsterdam, 2x Rotterdam, Capelle, Alphen) having a redundant CWDM Fiberring for interconnection with IPSec tunneling over common internet as a fallback.
In 2007 we switched from Quagga to Cisco 7600.
In 2010 we switched to MPLS.

Case #5 – 2005..2010, Customer Interaction Portal

Being a former Software Developer my skill came in handy building extra customer services at Panther-IT.
I developed a portal where customers could interact with their servers and websites/domains. Registering domainnames, rebooting servers through IPMI, statistics (cacti,snmp,nagios), CRM. Convenient for us to administer client registration, automated allocation & registration of resources (IP's, domainname), automated generation of workorder & letters to clients. Plus Ordering and Invoicing.

Case #6 – 2000..2003, Web Developer

As a Software Developer at MagicMinds, Amsterdam I was involved in some interesting projects.

* Feyenoord.nl, developing Java games and JSP (Java Server Pages) programming.
  Working inhouse in a team of 6 persons.
* eGo CreditCard, Postbank, ING: Java J2EE (EJB,JSP) programming for CreditCard online banking.
  working on location in a team of 5 persons.
* For more information see: http://cv.samterburg.nl/portfolio.html#magicminds

Case #7 – 2005, IRS Software Development

The Law constantly changes and changes have to be implemented.
In 2005 the new law WALVIS came into effect. This required pension funds to digitally submit payrolling to the IRS.
Emanon, being a pension fund software company, asked me to implement this change.
Project involved 6 months programming in an old language called “Speed”.
Successful completion proved that I’m capable of programming in all languages.

Case #8 – 2004, Rotterdam Wireless

Being a Techie at Luna.nl, a Rotterdam based Internet Service Provider, I was asked to do many tasks (because I said yes to everything (eager to learn and always overcommitted)).
At a hot summer followed by a cold winter I was asked to make Rotterdam Wireless.
This meant installing WiFi and DSL/WAN appliances all over the city (fortunately by an external mechanic, but as project manager and had to review every site) and implementing security like firewalling and spam-filtering. I chose Cisco as the hardware baseline.