

Python, the IT management “Esperanto”

Madrid, November
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Produban Corporation



CC Author: [Themeplus](#)

Produban Overview

Our Environment

Produban @ glance

PRODUBAN WORLD WIDE



**+200 INTERNAL
CUSTOMERS**

MANAGED INFRASTRUCTURE

BRANCHES

+14 K

PCs

+281 K

POS

+495 K

ATMs

+39 K

MAINFRAME

**186.000 MIPS
4,4 PB**

SERVERS

+45 K

STORAGE

+40 PB

Name it: We have it.



Huge regulatory framework... and growing



Winds of change

	O		V	
	V		I	
	E		R	
	R		T	S
C	L	O	U	D
	A	P	A	N
	Y	E	L	
		N		



CC Author: [Luca Masters](#)

Solutions

Standardization, Industrialization and Automation



X86 REFERENCE ARCHITECTURE



**PRIVATE CLOUD REFERENCE
ARCHITECTURE**

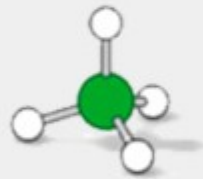


**PRODUBAN MANAGEMENT
FRAMEWORK**



**CLOUD END USER SERVICES REFERENCE
ARCHITECTURE
IT as a SERVICE**

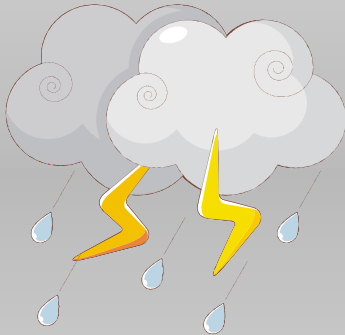
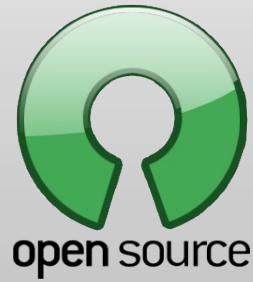
OpenSource Initiatives



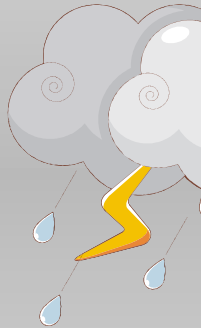
**CENTER OPEN
MIDDLEWARE**



A long last mile



We're not a software company but...



```
## IP Addresses
IPAddresses=$( nnet -c -H | awk -F "," ' $5 !~ /127.0.0.1/ && $5 !~ /0.0.0.0/ {print $5, ","} | sort | sed -e
"s/\",//g" | tr '\r' '\n' | tr -d '\n' | sed -e "s/, $//g" | sed -e "s/,//g" )
IPAddressesBL=${IPAddresses}
IPAddressesAIE=$( echo "${IPAddresses}" | awk '{ print substr($0,1,255) }' )

## DNS
echo "Inicio DNS"
if [ "${OS}" = "AIX" ] || [ "${OS}" = "HP-UX" ] || [ "${OS}" = "Linux" ] || [ "${OS}" = "Solaris" ]
then
    #/etc/resolv.conf Filas que empiezan por nameserver
    if [ -f /etc/resolv.conf ]
    then
        DNS=$( cat /etc/resolv.conf | grep -e '^nameserver' | awk '{print $2, ","} | sort | uniq | tr '\r' '\n' |
        tr -d '\n' | sed -e "s/, $//g" | sed -e "s/,//g" )
    else
        DNS="PRB-BL-DNS:Data Not Retrieved - /etc/resolv.conf does not exist"
    fi
elif [ "${OS}" = "Windows" ]
then
    ## DNS=$( nexec ${ServerName} cmd /C ipconfig /all | grep -i 'DNS Servers' | awk -F ":" '{print $2, ","} |
    sort | tr '\r' '\n' | tr -d '\n' | sed -e "s/, $//g" | sed -e "s/,//g" )
    ## DNS=$( nexec ${ServerName} cmd /C ipconfig /all | grep -A 1 -i 'DNS Servers' | sed -e "s/DNS Servers//g" |
    sed -e "s/\. //g" | sed -e "s/ ://g" | sed -e "s/^[\ ]*//g" -e "s/$/ /g" | sort | uniq | tr '\r' '\n' | tr -d '\n'
    | sed -e "s/ $//g" )
    DNS=$( nexec ${ServerName} cmd /C ipconfig /all | awk 'BEGIN {x=0}
    {
        if ($0 ~ /DNS Servers/)
        {
            print "<-DNS->"$0
            x = 1
        }
        else
        if ($0 !~ /\.:/ && x == 1)
            print "<-DNSBlanco->: "$0
        else
            x = 0
    }' | awk -F ":" '{print $2}' | grep '.' | tr -d '\t' | tr -d ' ' | sort | uniq | tr '\n' ' ' | sed "s/ $//g" )
fi
echo "Fin DNS"

## FQDN Service
echo "Inicio FQDN Service"
```



Code



- Adaptability
- Brief
- Consistency
- Correctness
- Extensibility
- Fast
- Flexible

- Generic
- Modular
- Orthogonal
- Parameterization
- Simplicity
- Stable

PyEsperanto



Why?

- Remember: we're not developers
 - Dynamic typing is cool
 - Laziness: write less code
- We do care our infrastructure
 - Java is cool for portability not efficiency / low latency exec
 - And what about C++? Sure, we do it on assembly all the way long
 - Perl? See the next point

Why?

■ Only way way to do it... but do it right.

- Help me to unify the way we do.

- `'(/[^\s/])?(s.[^a-z0-9\s].$_=unpack"B*",$&;y;01;\n`;lc.ge,y.`-z0-9.ajzges}mqo{hrkxypibuw|vntfdc@PX\\^_OGCA.,s-\S-(unpack"B*", $&)." "-ge,s-\b01+0--g,y,01,-.):(y,-,01,,s,([01]+),0 .1x(6-length$1).0 .$.1,ge,s-\b([01]+) ?-pack"B*", $1-ge,y.ajzges}mqo{hrkxypibuw| vntfdc@PX\\^_OGCA.`-z0-9.,s-([\n`]{8})-$_=$1;y;\n`;01;;pack"B*",$_-ge)'&& You fit it in 4`

- Ruby? One way... despite [PythonAndRubyAreConverging](#)

■ There is a lot of sysadmin related contain

- Just the OS module makes make day.

■ So... **The Zen of Python!**

Work in progress

P-API

A main library of common use 'last mile' functionality and integration helper

**Automation
Community**

Online tools & Evangelism

**Building
Content**

Sysadmins are selfish ☐

Questions?

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