

# consoleZ

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# consoleZ

- **consoleZ** is a tool which will allow you to:
  - View z/VM consoles from a browser
  - Run certain z/VM commands

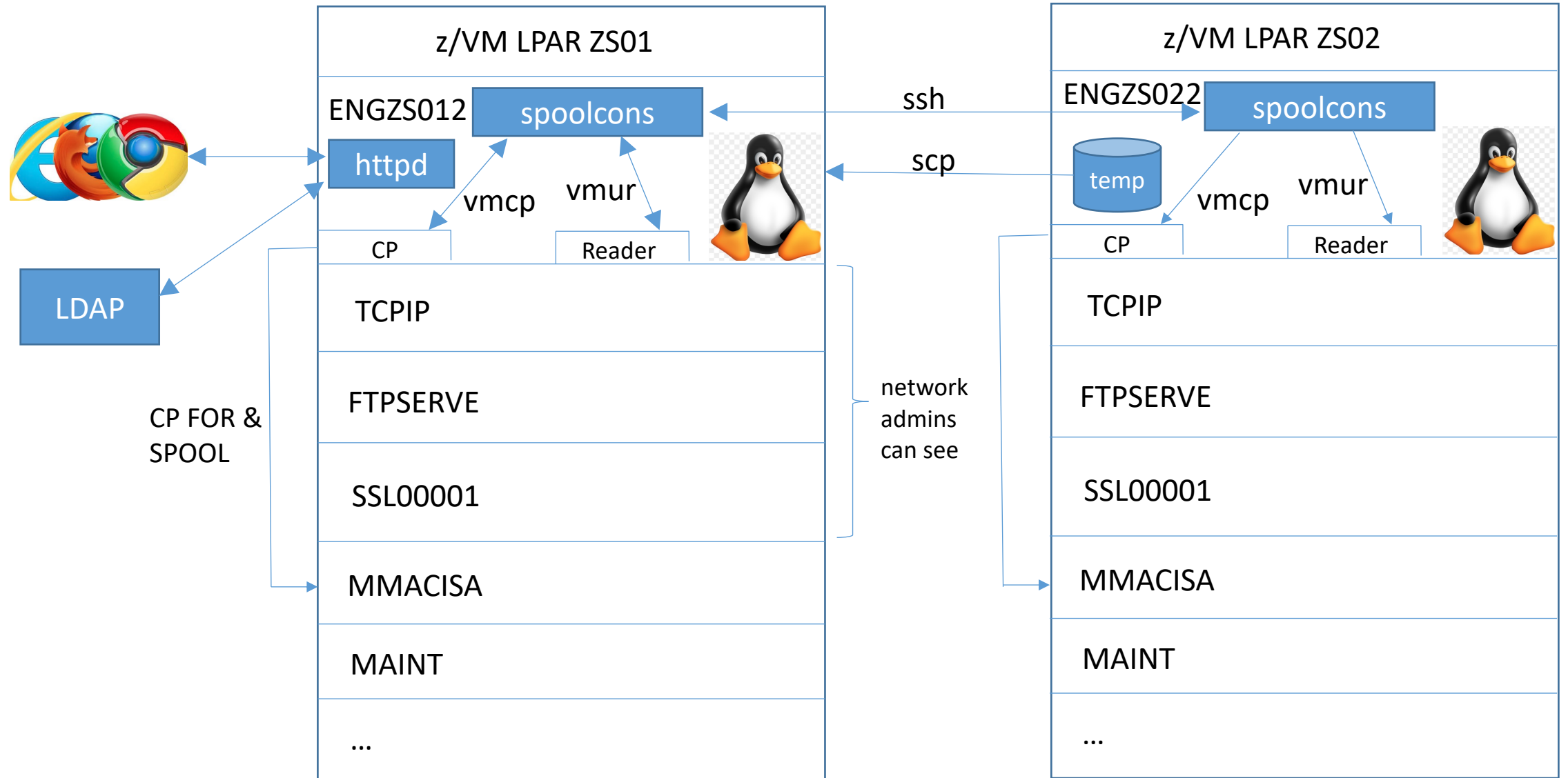
# The business problem

- Support of the zVM and Linux environment is split across multiple teams
- The team which supports the zVM TCPIP stacks, is the zOS communications team.
  - The team was recently refreshed after a corporate retirement plan.
  - The zVM skills of this team were rather thin and rarely used.
- How do we provide access to these consoles from all lpar to this team.
- The zVM team usually logs in to the specific lpar and uses opsmgr.
  - The internal agile team name for the zVM & Linux on Z is Emperor.

# Environment

- The ADP environment is spread across 3 geographically diverse datacenters
  - 2 production mirrored facilities each with 6 z15- T01's max190's
  - Development/engineering facility with 2 z15-T01's max 145 and a LinuxOne system
- Total of 60 LPARS spread across these 2 datacenters
  - 32prod
  - 5 pre-prod
  - 8 Client pre-prod
  - 15 dev/engineering.
- Total of 925+ IFLS
- 246Tb of memory (18Tb per machine except LinuxOne 5.8Tb)
- Multiple multi-lpar LAG vswitches
  - 8 10Gb OSA per prod machine
  - 6 10Gb OSA per non-prod machines.
  - 6 1Gb OSA per machine'
- Supporting SLES11, SLES12, RHEL7, RHEL8
- All zVM 7.2
- More than 12K mod27/mod54 volumes
- Approximately 50Tb of edev mdisks.
- Every lpar has an engineering linux guest running on it, used by my team.

ENGZS01 and ENGZS02 are engineering owned servers.  
The consoleZ code runs on each engineering server.



# CLI scripts

- **spoolcons** – spool a console
- **catcons** – print a console (symlink)
- **rmcons** – remove console for 1 VM (symlink)
- **lscons** – list save console files (symlink)
- **cpcommand** – run one CP command
- **consfuncs** – common functions

# CGI scripts

- **consolez** – Main page showing all data
- **onecons** – Web page showing one console
- **onelpar** – Page showing one z/VM LPAR
- **cpcmds** – Page to run some/all CP commands
- **consuifuncs** – Common functions
- **consolez.css** – Cascading style sheets

# Data structure

```
root@cdblengzs0102:/data # tree consolez
consolez
├── zSS:zS01
│   ├── D2S00121
│   ├── D2S00413
│   ├── D2S00427
│   ├── DSS00341
│   ├── DSS00417
│   ├── ENGZS01
│   ├── ENGZS012
│   ├── FTPSERVE
│   ├── HTTPD
│   ├── IPGATE
│   ├── LOHCOST
│   ├── MMACISA
│   ├── SSL00001
│   ├── SSL00002
│   ├── SSL00003
│   ├── SSL00004
│   ├── TCPIP
│   └── TCPMAINT
└── zSS:zS02
    ├── ENGZS022
    ├── HTTPD
    ├── MMACISA
    ├── SSL00001
    └── TCPIP
```



# Config files

/etc/consolez.conf:

```
#
# Configuration file for consolez - /etc/consolez.conf
#
# Variable 'consolezUser' must be set to a user that can
# Variable 'consolezDir' can be set but if not will default
#
consolezDir = "/data/consolez"           # directory where
consolezUser="zadmin"                   # user with pa
#
# Remaining values define your organizations environments
#
environment ZSS
cdlengzs0102 ZS01
cdlengzs0202 ZS02
cdlengvldb02 VLBX

environment HIL
cdlenghil101 HIL1
cdlenghil201 HIL2
cdlenghil301 HIL3
cdlenghil401 HIL4
```

/srv/www/ldap/consuifuncs:

```
adminGID=1041                               # GID of full administrators (0 = all users are admins)
netadminGID=1042                             # GID of network administrators
# user IDs network admins can see:
netadminIDs="DTCVSW1 DTCVSW2 DTCVSW3 DTCVSW4 FTPSERVE SSL00001 SSL00002 SSL00003 SSL00004 SSL00005 TCPIP TCPMAINT"
numCols=15                                  # number of columns in main tables
role="none"                                 # user's role - 'admin' or 'netadmin'
webIcon="consolez.ico"                      # browser tab icon
```

# Future work

- Prune – Move data out too old or too long
- Search – Grep and Linux files make it easy 😊
- Put on github.com
- Package into an RPM
- Redbook-like document



How to get it

- **DEMO!!!!**



# How to get it

- <https://sites.google.com/site/mike99mac/home>
- <https://sites.google.com/site/mike99mac/consolez.pptx>
- <https://sites.google.com/site/mike99mac/consolez-0.90.tgz>
  - Also: <https://tinyurl.com/y8ceas4c>



# Home page

Not secure | cdlengths0102.es.ad.adp.com/ldap/consolez?

## z/VM Console data

Search for z/VM consoles by host name or user ID:

CDL										
<a href="#">VLB1</a>	DTCSMAPI	DTCVSW1	DTCVSW2	DTCVSW3	DTCVSW4	FTPSEVERE	IJSLA331	OPERATOR	OPMGRM1	SSL00001
<a href="#">VLB2</a>	DJSLA129	DTCVSW1	DTCVSW2	DTCVSW3	DTCVSW4	FTPSEVERE	SSL00001	SSL00002	SSL00003	SSL00004
<a href="#">VLB3</a>	DTCVSW1	DTCVSW2	DTCVSW3	DTCVSW4	FTPSEVERE	SSL00001	SSL00002	SSL00003	SSL00004	SSL00005
<a href="#">VLB4</a>	DJSLA144	DJSLA945	DJSLA980	DTCVSW1	DTCVSW2	DTCVSW3	DTCVSW4	FTPSEVERE	MMACISA	SSL00001
<a href="#">VLB5</a>	DTCVSW1	DTCVSW2	DTCVSW3	DTCVSW4	FTPSEVERE	SSL00001	SSL00002	SSL00003	SSL00004	SSL00005
<a href="#">VLB6</a>	DEVLD006	DJSLA068	DTCVSW1	DTCVSW2	DTCVSW3	DTCVSW4	FTPSEVERE	QEVLD004	SSL00001	SSL00002
<a href="#">VLB7</a>	DTCVSW1	DTCVSW2	DTCVSW3	DTCVSW4	FTPSEVERE	SSL00001	SSL00002	SSL00003	SSL00004	SSL00005
<a href="#">VLB8</a>	DTCVSW1	DTCVSW2	DTCVSW3	DTCVSW4	FTPSEVERE	SSL00001	SSL00002	SSL00003	SSL00004	SSL00005
HIL										
<a href="#">HIL1</a>	ADPCMDB7	DTCVSW1	DTCVSW2	DTCVSW3	DTCVSW4	ENGHIL1	FTPSEVERE	KRAO000	MMACISA	SMTP
<a href="#">HIL2</a>	DTCVSW1	DTCVSW2	DTCVSW3	DTCVSW4	FTPSEVERE	SSL00001	SSL00002	SSL00003	SSL00004	SSL00005
<a href="#">HIL3</a>	DTCVSW1	DTCVSW2	DTCVSW3	DTCVSW4	ENGHIL32	FTPSEVERE	HENGP002	HENGP003	SSL00001	SSL00002
<a href="#">HIL4</a>	DTCVSW1	DTCVSW2	DTCVSW3	DTCVSW4	ENGHIL4	ENGHIL42	FTPSEVERE	SSL00001	SSL00002	SSL00003
ZSS										
<a href="#">ZS01</a>	D2S00001	D2S00121	D2S00413	D2S00417	D2S00427	DSS00281	DSS00341	DSS00417	DTCSMAPI	DTCVSW1
<a href="#">ZS02</a>	DTCVSW1	DTCVSW2	DTCVSW3	DTCVSW4	ENGZS022	FTPSEVERE	HTTPD	MMACISA	SSL00001	SSL00002

CP commands

Search

Help

# Search page

## Search saved z/VM console data

Enter a search pattern - Blank User ID/SystemID/Environment means search all

Search filters		
<a href="#">Clear filters</a>		
User ID	<input type="text"/>	
System ID/Environment	<input type="text"/>	
Search pattern	<input type="text" value="tcPIP"/>	<input checked="" type="radio"/> Case insensitive
<a href="#">Search consoles</a>		

Searching from /data/consolez with: `grep -H -n -i "tcPIP" */**`

Pattern 'tcPIP' matched 3418 lines

[Scroll to Bottom](#)

```

Searching from /data/consolez with: grep -H -n -i "tcPIP" */**
Binary file CDL:VLB1/DTCMAPI matches
Binary file CDL:VLB1/DTCVSW1 matches
Binary file CDL:VLB1/DTCVSW2 matches
Binary file CDL:VLB1/DTCVSW3 matches
Binary file CDL:VLB1/DTCVSW4 matches
CDL:VLB1/FTPSERVE:5:DTCRUN1046I Using TCP/IP data file: TCPIP DATA F1
CDL:VLB1/FTPSERVE:71:DTCRUN1046I Using TCP/IP data file: TCPIP DATA F1
CDL:VLB1/OPERATOR:223:03:46:25 AUTO LOGON ***      TCPIP   USERS = 29   BY AUTOLOG2
CDL:VLB1/OPERATOR:226:03:46:25 AUTO LOGON ***      SSLDCSSM USERS = 32   BY TCPIP
CDL:VLB1/OPERATOR:231:03:46:26 AUTO LOGON ***      SSL00001 USERS = 35   BY TCPIP
CDL:VLB1/OPERATOR:233:03:46:29 AUTO LOGON ***      FTPSERVE USERS = 36   BY TCPIP
CDL:VLB1/OPERATOR:234:03:46:29 AUTO LOGON ***      REXECD   USERS = 37   BY TCPIP
CDL:VLB1/OPERATOR:235:03:46:29 AUTO LOGON ***      SMTP     USERS = 38   BY TCPIP
CDL:VLB1/OPERATOR:236:03:46:29 AUTO LOGON ***      SNMPD    USERS = 39   BY TCPIP
CDL:VLB1/OPERATOR:237:03:46:30 AUTO LOGON ***      SSL00002 USERS = 40   BY TCPIP
CDL:VLB1/OPERATOR:238:03:46:30 AUTO LOGON ***      SSL00003 USERS = 41   BY TCPIP
CDL:VLB1/OPERATOR:239:03:46:30 AUTO LOGON ***      SSL00004 USERS = 42   BY TCPIP
CDL:VLB1/OPERATOR:240:03:46:30 AUTO LOGON ***      SSL00005 USERS = 43   BY TCPIP
CDL:VLB1/OPERATOR:449:04:04:57 * MSG FROM TCPIP   : TCP/IP is low on Large envelopes. Of 900 blocks, 88 are free. You should monitor this.

```

# CP Commands

## Run CP commands

### Choose LPARs

<input type="checkbox"/> CDL									
<input type="checkbox"/> VLB1	<input type="checkbox"/> VLB2	<input type="checkbox"/> VLB3	<input type="checkbox"/> VLB4	<input type="checkbox"/> VLB5	<input type="checkbox"/> VLB6	<input type="checkbox"/> VLB7	<input type="checkbox"/> VLB8		
<input type="checkbox"/> DC1									
<input type="checkbox"/> P105	<input type="checkbox"/> P106	<input type="checkbox"/> P107	<input type="checkbox"/> P108	<input type="checkbox"/> P109	<input type="checkbox"/> P110	<input type="checkbox"/> P113	<input type="checkbox"/> P114	<input type="checkbox"/> V1N1	<input type="checkbox"/> V1N2
<input type="checkbox"/> DC2									
<input type="checkbox"/> C203	<input type="checkbox"/> C204	<input type="checkbox"/> C205	<input type="checkbox"/> C206	<input type="checkbox"/> C207	<input type="checkbox"/> C208	<input type="checkbox"/> P207	<input type="checkbox"/> P208	<input type="checkbox"/> P209	<input type="checkbox"/> P210
<input type="checkbox"/> P215	<input type="checkbox"/> P216	<input type="checkbox"/> P217	<input type="checkbox"/> P218	<input type="checkbox"/> P219	<input type="checkbox"/> P220	<input type="checkbox"/> V2C1	<input type="checkbox"/> V2C2	<input type="checkbox"/> V2N1	<input type="checkbox"/> V2N2
<input type="checkbox"/> V2P4	<input type="checkbox"/> V2P5	<input type="checkbox"/> V2P6							
<input type="checkbox"/> HIL									
<input type="checkbox"/> HIL1	<input type="checkbox"/> HIL2	<input type="checkbox"/> HIL3	<input checked="" type="checkbox"/> HIL4						
<input checked="" type="checkbox"/> ZSS									
<input type="checkbox"/> ZS01	<input type="checkbox"/> ZS02								

CP command to issue: