

# VELOCITY

S O F T W A R E

## Introduction to Velocity Software Modernization and Management of your Z environment



Founded in 1988 in Mountain View California.

Constant Delivery since 1988, with a focus on these key areas:

❑ Performance Management Suite: **zVPS** a single pane of glass for:

- z/VM
- Linux
- Network
- zVSEMON
- zOSMON
- Applications (Docker, MongoDB, **OpenShift**)

❑ Modernizing z/VM with: **zPRO**

❑ Performance Support and Tuning with: **zTUNE** and **zVRM**

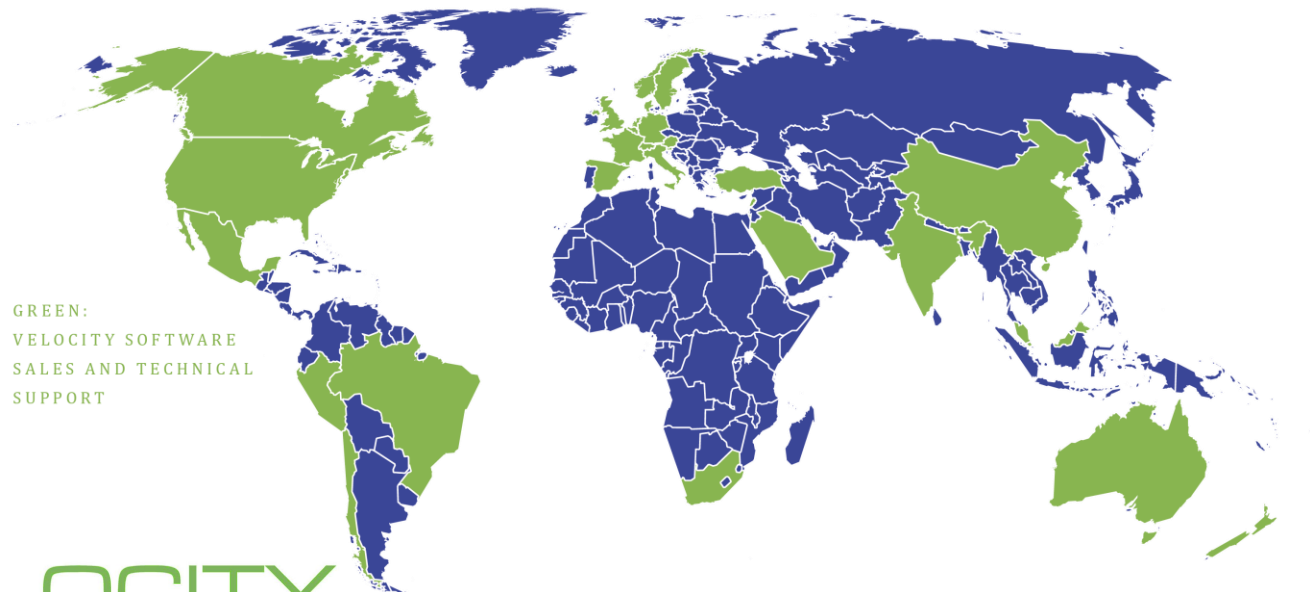
## Who is VSI:

Since 1988 VSI has been the industry leader for z/VM products, providing software, education and support to assist customers in optimizing their z/VM environment: currently managing more than ½ IFLs world wide in over 22 countries and 6 continents  
First for VM/XA, First for VM/ESA, First for Linux on z, First for Openshift, MongoDB

## Who are our customers:

Financial Institutions, Banks, Governments, ... but any client with z/VM installed on IBM Z.

Velocity Software's Sales and Technical Support Map



## **zVPS** PERFORMANCE SUITE

THE WORLD'S LEADING PERFORMANCE MANAGEMENT SOLUTION FOR Z/VM WITH LINUX AND/OR VSE. NEWLY ADDED SUPPORT FOR Z/OS PLUS NO-CHARGE MONITORING FOR X86 LINUX AND WINDOWS.



## **zPRO** CLOUD MANAGEMENT

SOLUTION FOR MODERNIZING THE Z/VM PLATFORM, ADDING ON-PREM CLOUD SUPPORT WITH WEB-BASED CONTROLS FOR Z/VM SYSTEM MANAGEMENT PLUS LPAR CLONING AND ANSIBLE PLAYBOOKS USING VELOCITY'S HIGHLY AVAILABLE SMAPI-FREE API'S.



## **zTUNE** SUPPORT SUBSCRIPTION

VELOCITY SOFTWARE'S ELITE PERFORMANCE SUPPORT SERVICE THAT CREATES AUTOMATED DAILY REPORTS WITH RECOMMENDED ACTIONS



## **zVRM** RESOURCE MANAGER

REAL-TIME MANAGEMENT FACILITY FOR Z/VM WITH LINUX THAT AUTOMATES SYSTEM SETTINGS USING KNOWLEDGE-BASED INTELLIGENCE TO TUNE WORKLOAD REQUIREMENTS AND OPTIMIZE OVERALL SYSTEM PERFORMANCE.



## Running well at higher utilizations is a good thing

### Customer examples

1. 40 IFLs, 4 LPARs, 95-98% utilization with good performance
2. 58 IFLs, 5 LPARs, often above 90%
3. 95 IFLs, 7 LPARS, up to 82%
4. 95 IFLs, 7 LPARS, up to 90%
5. 67 IFLs, 5 LPARs, up to 77%
6. 17 CPs, 5 LPARS, mostly 99%
7. 145 IFLs, 17 LPARS, 70%

## Industry has changed, cash cows are getting stale Replacing expensive / unreliable alternatives

- Broadcom's VM/Manager suite
- IBM's operations manager, DIRMAINT,
- "IBM's" Wave and all SMAPI based (ICIC)
- Omegamon unusable (multiple customer statements)
  - Quote: "Two months to install omegamon tep"
- Modernizing LinuxOne to assist VMWare replacements

Metal to cloud in 2 days – z/VM on a z15

- Only RACF and z/VM from IBM
- Full cloud running 200 linux servers

## The 4 Velocity Software “pillars”:

1. Performance Management: zVPS
  - Capacity planning / Chargeback
  - Performance Analysis
  - Alerts and Notifications
  - Performance Recommendations: zTUNE
  - Performance Tuning: zVRM
  - Manage Service Level Agreements

### 2. Modernization: zPRO

- Browser / graphical interface
- Native webserver
- Light weight APIs
- **User empowerment**
- **Task delegation**
- On-prem cloud administration and management

## 3. System Management

- Operational Support
  - Alerts, response actions
  - APIs – modern and light weight for managing z/VM
  - Simplified directory management
  - Operations front end for assigned functions
  - Backup/restore
- System Management – Systems Support
  - Graphical interface
  - Spool management

## 4. Enterprise Management

- Single pane of glass
- Centralized management
- New technologies: RHOS / Kubernetes / docker management
- Database management: MongoDB, Oracle

Performance Management is a process with four key components:

- Performance Analysis (real time)
- Operational Alerts (real time)
- Capacity Planning (long term)
- Accounting/Charge back

zVPS Users:

- Centralized performance management
- Data analyst / Linux admin
- Enterprise capacity planning
- Accounting
- Centralized Operations
- Dashboards

## Our Product Design Objectives:

- Data Accuracy, product longevity, scalability, extensible
- Minimize complexity - Keep it Simple (and elegant)
- Ease of use, easy to support, **highly available**
- Modernization (browser based, cross enterprise)
- Low resource consumption for zVPS (1% of one engine)
- Low resource consumption for data collection
- Provide data to dashboards (Grafana, splunk, OLTP, etc)

## zVPS Components

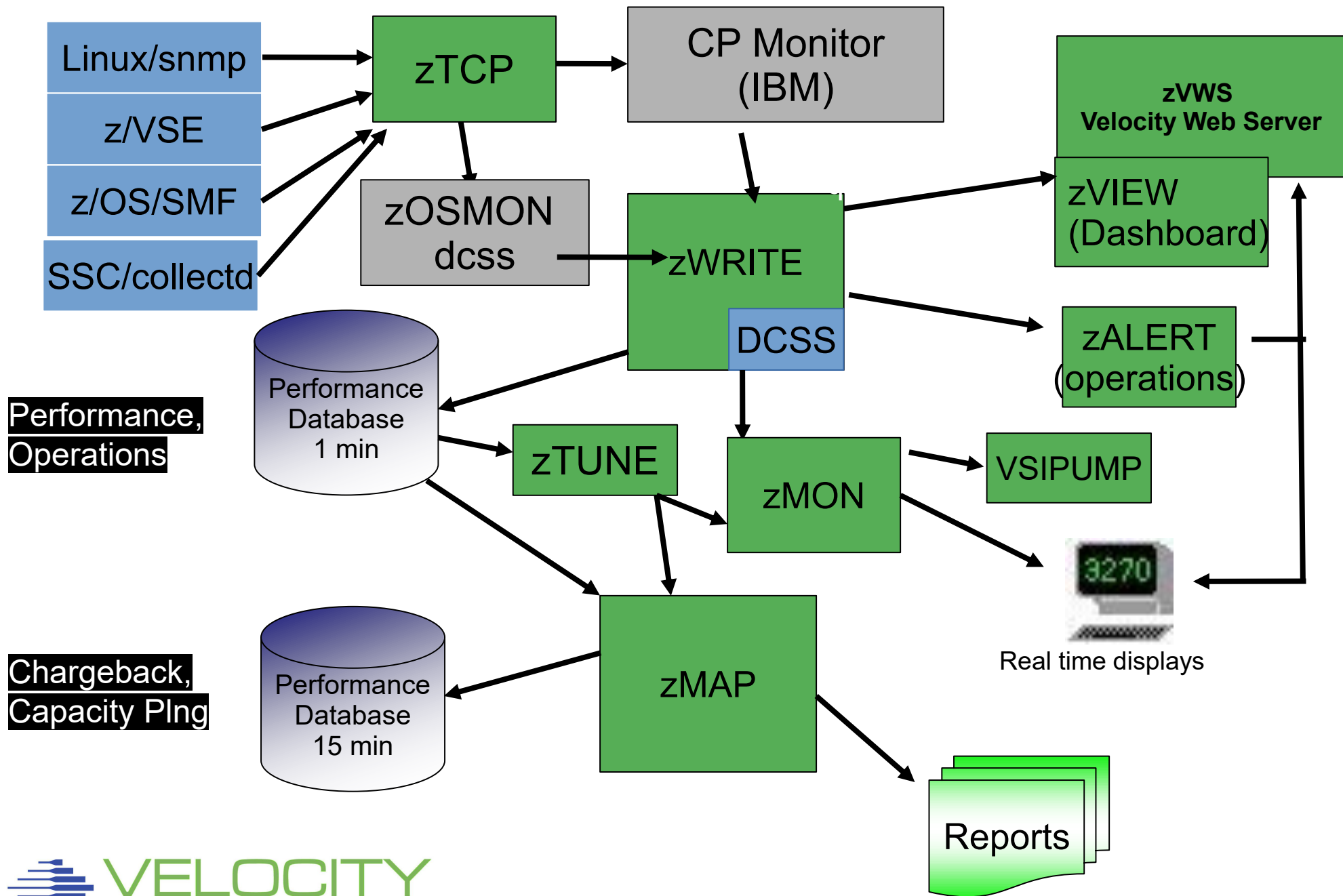
- zMAP - Performance reporting, long term performance data base
- zMON – Real time interface, short term performance data base
- zVWS – Native webserver
- zTCP – Data collector (snmp, collectd, smf, dmf)

## No charge components with graphical interface

- ESAEXTR – build your own reports, analyzer
- zVIEW – performance management dashboard
- zOPERATOR
  - Fully integrated operations console (replaces Ops Mgr)
- zALERT
  - Performance alerts and notifications (integrated)
  - Alerts to SNMP management console (NETCOOL, HPOpenView)
  - Email alerts, Cell phone text alerts

## Add On Products

- zPRO – Cloud Management / zVM Modernization / Broadcom replacements
- zVRM – Resource Manager to maximize utilization
- zTUNE – Performance Support Subscription



**Performance,  
Operations**

**Chargeback,  
Capacity PIng**

## Why zTUNE? (KI Based, Knowledge based)3

- Mainframes/LinuxOne environments are Complex
- Many things get overlooked even by experts
- Experts become experts by seeing many many performance problems
- What causes problems?
- When same problem multiple times, create a rule to look for it
- Checks for configuration “best practices”
- Inexpensive insurance to have the best skills when there is a problem

## zTUNE Components

- zTUNE RULES – 100+ performance items that get checked
- ESATUNE report produced by zMAP, display on zVIEW
- Performance assistance on demand from Velocity Software experts
- Upload data for analysis at any time
- Ptrack ‘zTUNE’ sev1 alerts velocity management phones....

Focus more now on simplifying problem resolution

User reports that applications complained about Linux on Z WAS performance:

```
Report: ESATUNE      Tuning Recommendation Report
```

```
-----  
The following changes are suggestions by Velocity Software  
to enhance performance of this system.
```

```
However, Velocity Software takes no responsibility -  
all tuning is the responsibility of the installations.  
Please call 650-964-8867 if you have any questions about  
these values, or suggestions on report enhancements.
```

```
USR2 User LINUX160 is paging excessively (75.0 per second)  
This user can be protected using SET RESERVED
```

```
SPL5 Spool utilization is 100% full.  
Perform Spool file analysis and purge large  
spool files, or force users currently writing  
excessively to spool.
```

```
*****zTUNE Evaluation *****
```

```
XAC1 User total PROCESSOR WAIT excessive at 33 percent.  
Current reporting threshold set to 20.  
This is percent of inqueue time waiting for  
specific (PROCESSOR)resources to become available.
```

```
LPR3 LPAR share is too low, causing USER CPU Wait
```

```
VM LPAR allocated share: 0.94 percent of total  
VM LPAR used 389 percent of allocated share
```

## zVWS: Native generalized z/VM Webserver

- CMS Based
- Written in Assembler, because that is just fast
- Generalized server – **completely eliminates need for SMAPI**

## VelocitySoftware.com (all runs on z/VM natively)

- VelocitySoftware.com, VelocitySoftware.de, etc
- VelocitySoftware.net
- Linuxvm.org, MVMUA.org
- VMWorkshop.org (great conference for z/VM)
- GGWSC.ORG

## Velocity Applications provided by Velocity Software

- zVIEW (Performance data presentation “dashboard”s)
- zPORTAL (GUI interface to managing zVPS)
- zPRO (No smapi, no java, No linux server requirements, no complexities)

## All platforms provided, one visualization technology

- z/VM (CP monitor)
- Networks (snmp)
- Linux (“z” and “x”) (snmp)
- z/VSE (VSEMON – no charge, snmp, DMF)
- z/OS (zOSMON: SMF record input)
- SSC (IBM Secure Software Container – collectd)
- Microsoft (snmp – no charge)
- VMWare/ ESX (snmp – no charge)

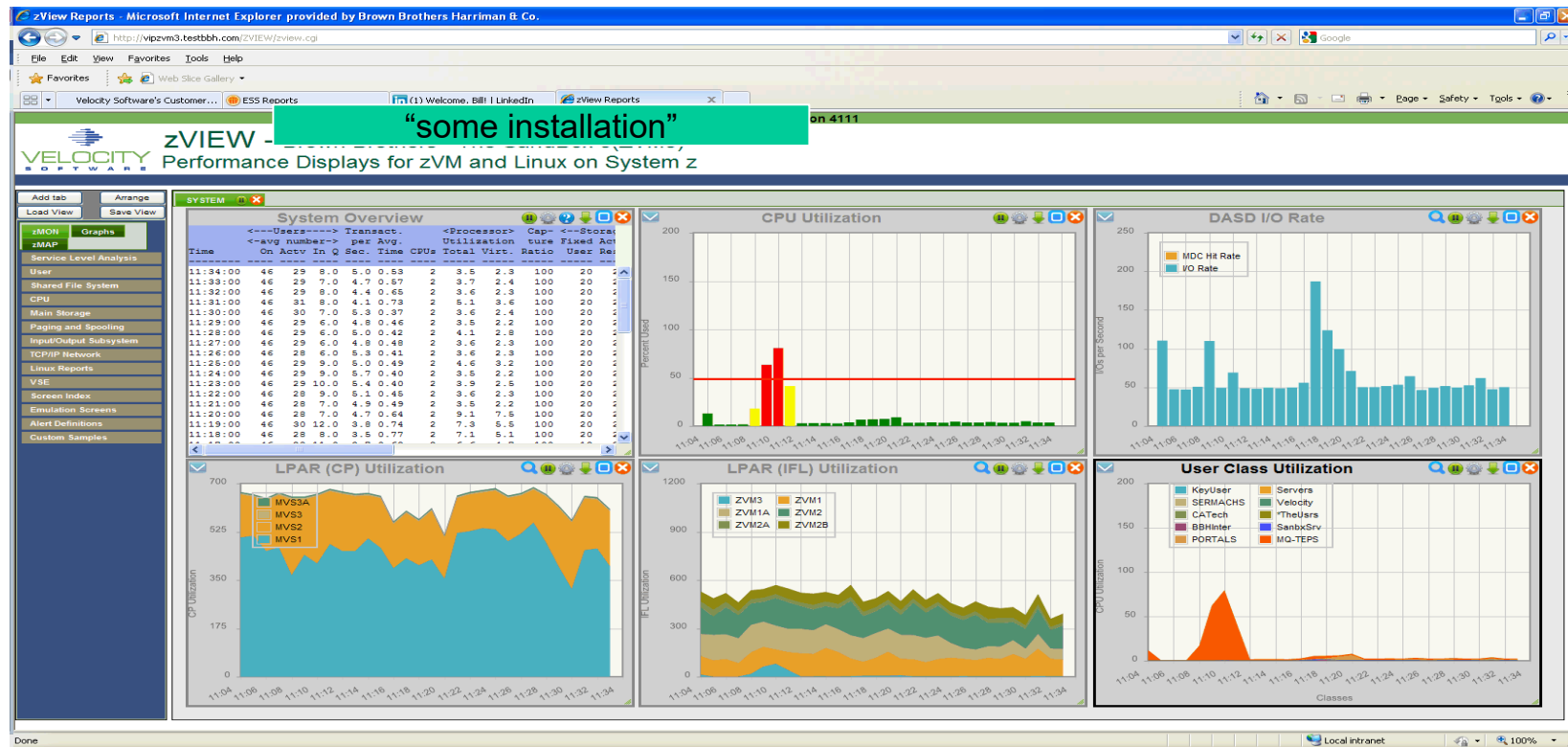
## Many applications

- Oracle (snmp)
- JVM (snmp)
- GPFS (snmp)
- Docker, Kubernetes (OpenShift, Rancher)
- MongoDB Enterprise

VSIPUMP supports:

- Grafana
- Open Telemetry
- InfluxDB

- End users define their dashboard(s)
- Many dashboards are provided (VSE, z/OS, Linux)
- Not just for Systems Programmers. (Applications, operations)
- Menu driven



## Single pane of glass

- Data from “many” multiple LPARs(50) / geographies(3)

The screenshot displays the 'Enterprise Performance Summary' interface. A search bar at the top contains the text "some installation". The main content is a grid of LPAR performance data, organized into sections: DC1, DC2, and CDL. Each section contains multiple rows of LPARs, each with expandable details and performance metrics.

Category	LPAR ID	Time	IFL	Total	Percentage	Action
DC1	V1P1	08:48	IFL	Total (48)	726.84%	Expand
	V1P2	08:48	IFL	Total (48)	1134.08%	Expand
	V1P3	08:48	IFL	Total (48)	876.00%	Expand
	V1P4	08:48	IFL	Total (48)	1003.38%	Expand
	V1N1	08:48	IFL	Total (18)	817.16%	Expand
	V1N2	08:48	IFL	Total (24)	837.95%	Expand
	P105	08:48	IFL	Total (40)	473.80%	Expand
	P106	08:48	IFL	Total (40)	671.12%	Expand
	P107	08:48	IFL	Total (40)	1016.40%	Expand
	P108	08:48	IFL	Total (20)	594.27%	Expand
	P109	08:48	IFL	Total (24)	563.91%	Expand
	P110	08:48	IFL	Total (12)	372.45%	Expand
DC2	V2P1	08:48	IFL	Total (48)	796.48%	Expand
	V2P2	08:48	IFL	Total (48)	846.38%	Expand
	V2P3	08:48	IFL	Total (48)	812.27%	Expand
	V2P4	08:48	IFL	Total (48)	699.41%	Expand
	V2P5	08:48	IFL	Total (40)	897.73%	Expand
	V2P6	08:48	IFL	Total (40)	454.40%	Expand
	P207	08:48	IFL	Total (56)	1429.15%	Expand
	P208	08:48	IFL	Total (64)	1865.63%	Expand
	P209	08:48	IFL	Total (56)	1572.48%	Expand
	P210	08:48	IFL	Total (64)	1739.40%	Expand
	P211	08:48	IFL	Total (44)	1222.53%	Expand
	P212	08:48	IFL	Total (44)	895.78%	Expand
CDL	VLB1	08:48	IFL	Total (52)	2840.84%	Expand
	VLB2	08:48	IFL	Total (36)	2868.00%	Expand
	VLB3	08:48	IFL	Total (40)	3273.59%	Expand
	VLB4	08:48	IFL	Total (38)	2291.49%	Expand
	VLB5	08:48	IFL	Total (48)	646.12%	Expand
	VLB6	08:48	IFL	Total (28)	2287.44%	Expand
	VLB8	08:48	IFL	Total (24)	1623.21%	Expand
	ZS01	08:48	IFL	Total (16)	113.72%	Expand
	ZS02	08:48	IFL	Total (16)	9.82%	Expand
	VLBX	08:48	IFL	Total (3)	99.90%	Expand
	HIL1	08:48	IFL	Total (64)	85.85%	Expand

## Tailorable, expandable, zoomable

Today is Monday 2 Dec 2013 zVIEW Version 4159

**zVIEW**  
Enterprise View - Velocity Software - VSIVM4 (DEMO)

**First level**

VSIVM1					VSIVM2					VSIVM3(old)				
VM1	13/12/02	18:29	CP Total (2)	6.63%	VM2	13/12/02	18:29	IFL Total (1)	0.91%	VM3	13/12/02	21:29	024B42-0	99.22%
Linux Nodes (Distributed Servers)					Linux Nodes (z/VM-Guests)					Linux Nodes (z/VM-Guests)				
LINUX9 (9)			3.93%		RH5X161			0.43%		000000-64			99.22%	
suselnx3 (9)			2.57%		RH5Z161			0.37%						
REDHAT (2)			2.30%											

**Demo System V4**

Demo	13/12/02	18:29	IFL Total (1)	17.77%
Linux Nodes (z/VM-Guests)				
roblx1			2.83%	
redhat6			1.18%	
oracle			0.82%	
redhat56			0.47%	
redhat5x			0.43%	
lxsugar (2)			0.41%	
redhat64			0.31%	
sles8 (2)			0.31%	
sles10			0.29%	
redhat5			0.27%	
redhat3			0.25%	
redhat6x			0.24%	
suselnx2			0.22%	
sles11 (2)			0.22%	
sles11x			0.20%	
sles11x3			0.19%	
sles9x			0.18%	
scsil0s			0.17%	
sles10x4			0.17%	
sles9			0.16%	
Linux Nodes (Distributed Servers)				
linux93 (2)			100.00%	
opensuse (2)			8.97%	
JIRA (2)			5.88%	
vpnbrz			5.50%	
vpnbrc			4.76%	
mail (9)			3.42%	
vpnz			2.35%	

**Second level**

**Times Test System**

TimL2	13/11/27	13:09	IFL Total (1)	0.10%
Linux Nodes (z/VM-Guests)				
			1.85%	
			1.50%	
			0.85%	
			0.57%	

## End users define their dashboard(s)

- Linux administrator dashboard provided, everything in one click
- Secure, no need for logon to Linux (no ssh, top)
- Fast and efficient, no restriction on numbers of viewers

Wednesday 7 Nov 2018 00:46 zVIEW Version 4310

**VELOCITY SOFTWARE** zVIEW - Velocity Software - VSIVM4 (DEMO)  
Performance Displays for zVM and Linux on System z

The screenshot displays a multi-pane dashboard for 'ESALNXP - VSI Linux Percent Usage by Process - DEMO'. The main window shows a table of process usage:

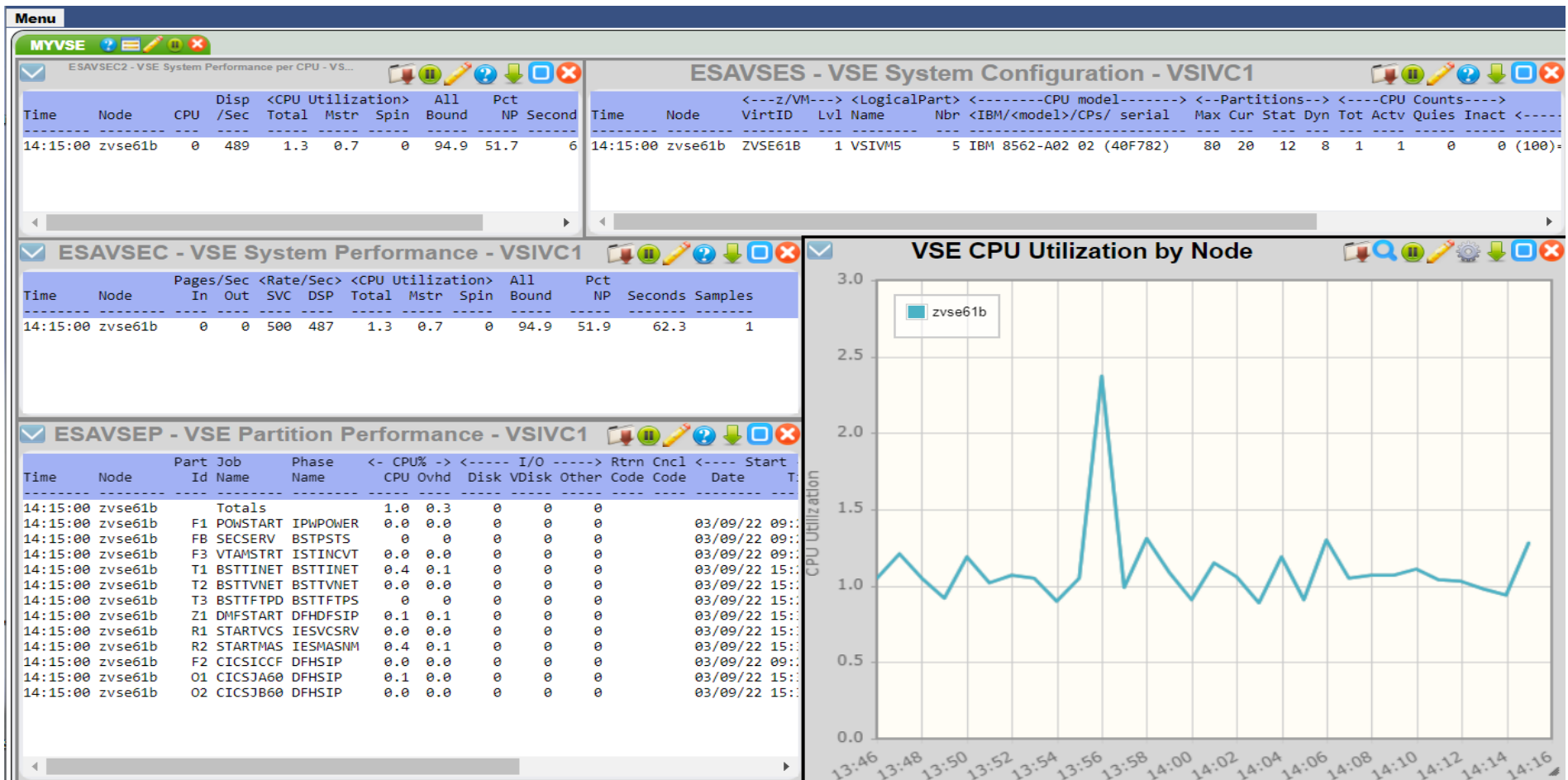
Time	Node	Name	ID	PPID	GRP	Tot	sys	user	syst	usr	val	prty	Size	RSS	Peak	Swap	Data	Stk	EXEC
00:46:00	lxdb2001	*Totals*	0	0	0	0.6	0.1	0.1	0.1	0.3	0	0	4549	322	4557	0	1391	4.8	3.8
00:46:00	lxdb2001	init	1	1	1	0.0	0.0	0.0	0.0	0.0	0	20	2.4	0.9	2.4	0	0.2	0.1	0.0
00:46:00	lxdb2001	snmpd	2200	1	2199	0.1	0.1	0.1	0.0	0.0	-10	10	29.7	13.4	37.1	0	17.3	0.1	0.0
00:46:00	lxdb2001	cron	2223	1	2223	0.1	0.0	0.0	0.0	0.0	0	20	2.6	0.9	2.7	0	0.2	0.1	0.0
00:46:00	lxdb2001	db2fmc	2245	1	2245	0.4	0.0	0.0	0.1	0.3	0	20	50.9	13.9	51.0	0	3.5	0.2	0.1
00:46:00	lxdb2001	db2sysc	2833	2831	2833	0.0	0.0	0.0	0.0	0.0	0	20	877	91.6	877	0	262	0.1	0.1
00:46:00	lxora12	*Totals*	0	0	0	1.2	0.3	0.9	0.0	0.0	0	0	3970	724	4197	115	1845	6.6	7.4
00:46:00	lxora12	amdzma0	1503	1	1503	0.0	0.0	0.0	0.0	0.0	0	20	250	10.1	314	0.9	66.3	0.1	0.4

Other panels include:

- ESAHST2 - LINUX HOST Storage Analysis Report - DEMO**: Shows storage utilization for ZPRO and VPNS.
- ESAUCD2 - LINUX UCD Memory Analysis Report - DEMO**: Shows real and swap storage usage.
- ESAUCD4 - LINUX UCD System Statistics Report - DEMO**: Shows processor and disk statistics.
- ESAHST4 - LINUX HOST System Statistics Report - DEMO**: Shows system-wide statistics.
- Graph**: A line chart showing IFL Utilization for VSIVM5, VSIVM2, VSIVM1, VSIVM4, and Overhead IFL.

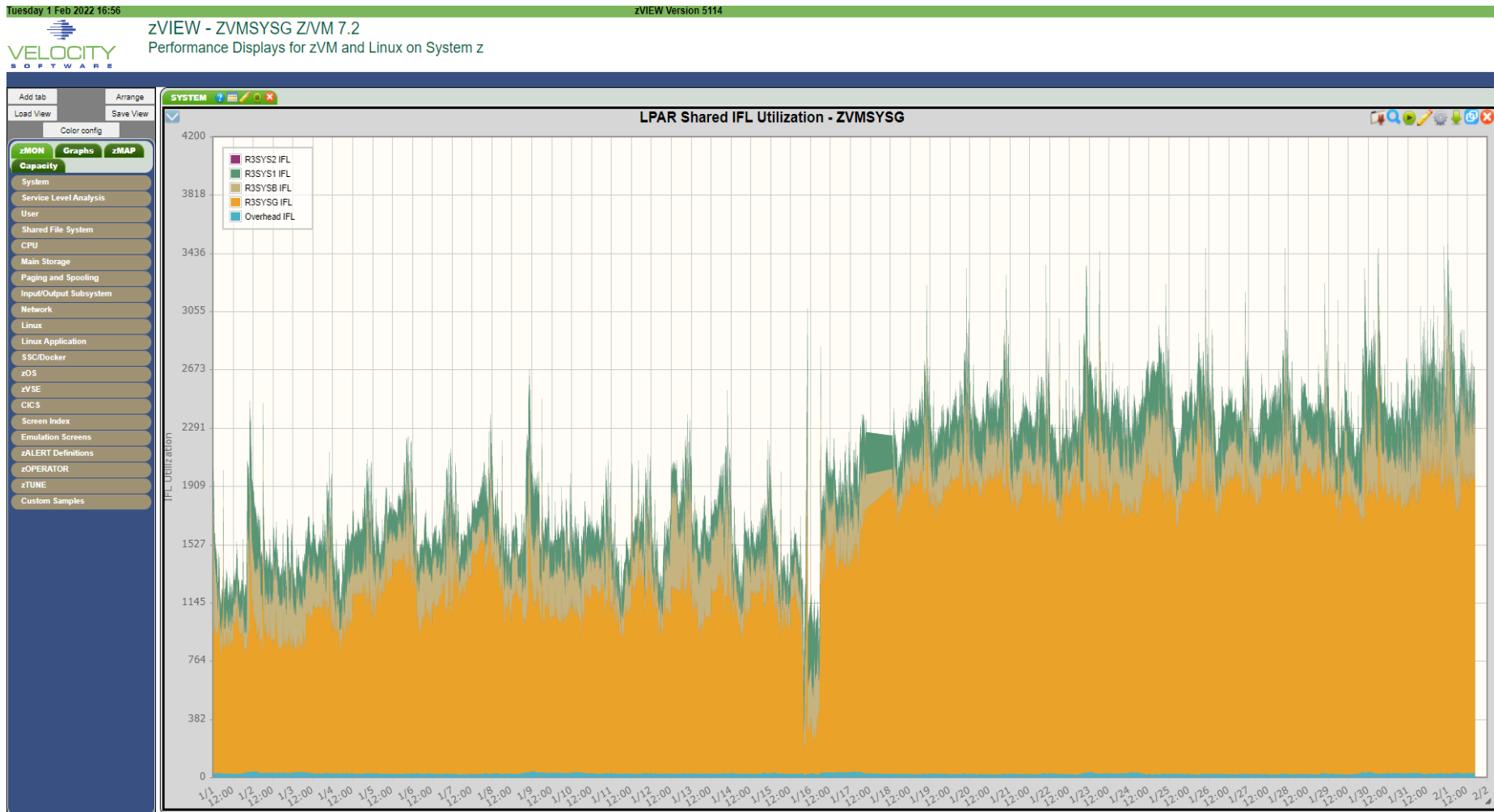
## End users define their dashboard(s) – z/VSE at one click

- Secure, no need for logon
- Fast and efficient, system partitions, jobs pretty chart at one click



## Dynamic Charts

- Data extracted from database dynamically to create graph, example last month



## 3270 Style Alerts (50+ sample alerts provided)

```

Screen: LINALERT          Velocity Software          25 Mar 2015 06:42:29
----- Exceptions Analysis Alerts -----

Type Description
LNDX / area on oracle is 79.51% full
LNDX /opt area on oracle is 82.24% full
LNDX /home area on oracle is 59.02% full
LNDX / area on RH5X161 is 32.54% full
LNDX / area on S11R20RA is 81.56% full
LNDX /boot area on S11R20RA is 23.79% full
LNDX /opt area on S11R20RA is 95.80% full
LNDX /mnt/oracle area on S11R20RA is 53.23% full
LNSU Swap utilization for Linux
LNSU Swap utilization for Linux
    
```

Or Browser based:  
Click Thru  
or SMS, email...

Today is Wednesday 25 Mar 2015 zVIEW Version 4174

VELOCITY SOFTWARE  
zVIEW - Velocity Software - VSIVM4 (DEMO)  
Performance Displays for zVM and Linux on System z

LINALERT - Exceptions Analysis Alerts - 15/03/25 at 06:47 - DEMO

Code	Alert Description
LNDX	CPU utilization on Linux node BlakeMC is 13.86%
LNDX	/ area on lxsugar is 90.74% full
LNDX	/usr area on lxsugar is 57.59% full
LNDX	/ area on opensuse is 39.71% full
LNDX	/home area on opensuse is 53.23% full
LNDX	/iso/sles11s area on opensuse is 100.00% full
LNDX	/iso/s11sp2- area on opensuse is 100.00% full
LNDX	/iso/s11sp2- area on opensuse is 100.00% full
LNDX	/iso/s11sp3- area on opensuse is 100.00% full
LNDX	/iso/s11sdk- area on opensuse is 100.00% full
LNDX	/iso/s10sp2 area on opensuse is 100.00% full
LNDX	/iso/r64 area on opensuse is 100.00% full
LNDX	/iso/r62 area on opensuse is 100.00% full
LNDX	/iso/s10v1 area on opensuse is 100.00% full
LNDX	/iso/r7 area on opensuse is 100.00% full
LNDX	/iso/sles11s area on opensuse is 100.00% full
LNDX	/iso/s12-1 area on opensuse is 100.00% full
LNDX	/iso/s12-2 area on opensuse is 100.00% full
LNDX	/iso/s12sdk1 area on opensuse is 100.00% full
LNDX	/iso/s12sdk2 area on opensuse is 100.00% full
LNDX	/ area on oracle is 79.51% full
LNDX	/opt area on oracle is 82.24% full
LNDX	/home area on oracle is 59.02% full
LNDX	/ area on redhats is 32.26% full
LNDX	/ area on redhatx is 32.54% full
LNDX	/ area on redhat56 is 95.80% full
LNDX	/mnt area on redhat56 is 53.23% full
LNDX	/ area on redhat6 is 30.60% full
LNDX	/ area on redhatx is 94.92% full
LNDX	/dev/sim area on redhatx is 51.42% full
LNDX	/ area on redhat64 is 36.09% full
LNDX	/boot area on rhel7v is 23.79% full
LNDX	/ area on roblnx2 is 78.74% full

## Single pane of glass – all LPARs console

The screenshot displays a grid of terminal windows, each representing a different Logical Partition (LPAR) in a z/OS environment. The windows are titled with the LPAR name and the console type, such as 'ZOPER - zOPERATOR Console - VSIVC4', 'ZOPER - zOPERATOR Console - CLOUD1', and 'ZOPER - zOPERATOR Console - CUST...'. Each terminal window shows a stream of system messages, including logon events, job execution status, and system alerts. The messages are color-coded for readability, with green for normal operations and red for alerts or errors. The interface includes standard window controls (minimize, maximize, close) and a menu bar at the top left.

## Openshift data source

- Closed system, performance management not included
- Prometheus support very expensive
- Velocity Software provides containerized snmp

## Snmpd container from Velocity Software

- Very light weight (target overhead .1% one IFL per node)
- One per node
- Standard snmp data collection with zVPS
- Standard performance management provided
- Supports Openshift, Rancher, Docker platforms
- Supports zCX!

## By CPU Consumption by pod, by container

Report: ESAK8S2      Kubernetes Resource Utilization Report

```

-----
NODE/          <---Container-->  <--Container CPU----->
Time/  PodName      <--Process ID-->    <-----CPU Percents---->
Date   ContainerName  ProcID ProcName           Tot   sys user  syst usrt
-----
rhoscpl
  console-operator-59d
    console-operator      17395 console      0.62  0.12  0.50      0      0
  openshift-controller
    openshift-controller  29430 cluster-     0.38  0.08  0.30      0      0
  kube-controller-mana
    kube-controller-mana  12030 cluster-     1.15  0.15  1.00      0      0
  insights-operator-7f
    insights-operator     14827 insights     0.30  0.05  0.25      0      0
  node-exporter-chc49
    node-exporter         3207  node_exp     0.38  0.13  0.25      0      0
  kube-apiserver-rhosc
    kube-apiserver        3378  watch-te    11.1  1.04  10.1      0      0
    kube-apiserver-cert-  5683  cluster-     0.18  0.08  0.10      0      0
    kube-apiserver-check  6166  cluster-     0.47  0.08  0.38      0      0
prometheus-k8s-1
  prometheus          1817314 promethe    42.1 0.95 41.1      0      0
  thanos-sidecar         1817435 thanos        0.15  0.02  0.13      0      0
  prometheus-proxy       1817486 oauth-pr     0.57  0.03  0.53      0      0
  prometheus-operator-
    prometheus-operator   11347 promethe     0.17  0.02  0.15      0      0
  vsi-snmpd-vk5vd
    vsi-snmpd          1762314 snmpd       0.53 0.20 0.33      0      0
  
```

["demo.VelocitySoftware.com/zview"](https://demo.VelocitySoftware.com/zview)

- Linux, VSE,
- z/OS
- z/VM
- Network
- Openshift (Kubernetes)
- Docker



# Modernizing and Automating the LinuxOne Environment

Modernizing with current technology adds benefits

- **Automation** results in reduced workloads
- Modern functions improve workflows / save time
  - “single click generation of file pools” – **significant time savings**
  - “LPAR cloning” – reduced workloads
  - “user empowerment” – reduced paperwork, improves time to market
- Reduced carbon footprint / sustainability

**End result of modernizing should be:**

- **Reduced costs,**
- **Reduced skills**
- **faster development, new applications**
- **Smaller workload doing more with less**

## Very Simple and Elegant architecture

- Simple to install (hours to install and tailor, requires zVPS)
- Uses Velocity Software's Native z/VM Web Server (zVWS)!
- No "smapi", **No "linux server" requirements**, No java
- **Non-intrusive**, no system modifications
- Outside services not required
- (as compared to xcat, cma, WAVE....)

## Original Intent: Private Cloud infrastructure

- Empower Users
  - create and manage their servers without systems support
- Protected environment
- Linux administrators can manage their "Virtual Machine"

## Event Scheduler

- Schedule and manage events across your systems

## zDIRECT: Directory and Storage Pool management

- Add/Delete DASD volumes in your storage pools

## zSPOOL: Spool management

- Manage all spool files
- View **via browser** open or closed spool files
- Allow Linux administrators to view their Linux consoles easily

## Backup & Restore

- Backup and restore key/critical files
  - (system config, directory, TCPMAINT)
- Back up files on selected minidisks, sfs file pools

## Shared File System (SFS) Management

- Manage pool servers, users/admins, space management,
- build a new pool

## Benefits

- Difficult time consuming tasks - simplified
- End users empowered –
- Reduced need for skilled systems programmers

## zPRO'd other complex tasks

- Lun/Edev management – connects directly to DS8K / EMC
- LPAR management – connects directly to HMC
- Linux management – API allowing Linux commands
- Directory management – DIRMAINT, VMSecure, zDIRECT
- RACF wizard
- Restful APIs available to other users (Ansible)

## What is “modern” technology?

Hardware: Z17 / LinuxOne adds huge opportunities

- AI, compression, encryption
- Lower carbon footprint -> sustainability!

### Software

- Linux on z – consolidation, move to modern (away from x)
- Oracle on Linux on z – reduce software costs
- MongoDB / postgres on z – new applications, functions
- Openshift on z - Opportunities
- Ansible – automation (patches, creating servers)
- Grafana dashboards – visibility

z/VM – with zPRO.... Successfully modernizing z/VM

## zVWS: Native generalized z/VM Webserver – **base for modernization**

- CMS based, Written in Assembler, very light weight
- Full function, Generalized server – completely eliminates need for SMAPI
- CGIs in rexx, assembler, pl1, etc (**Issue CP, CMS commands directly**)
- VERY EASY to develop web pages and applications

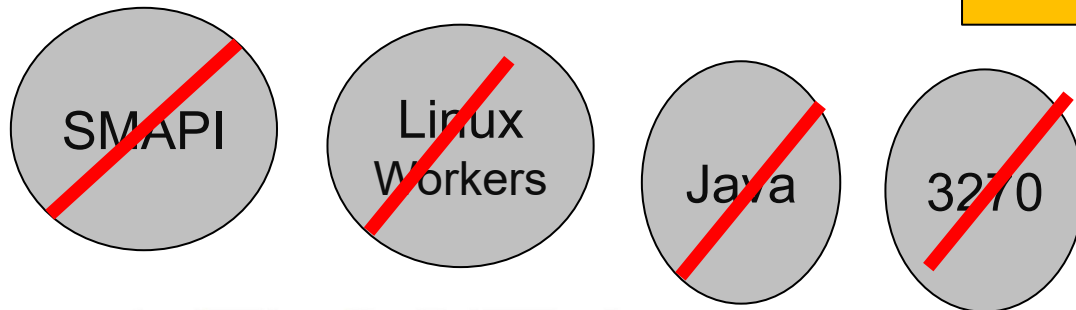
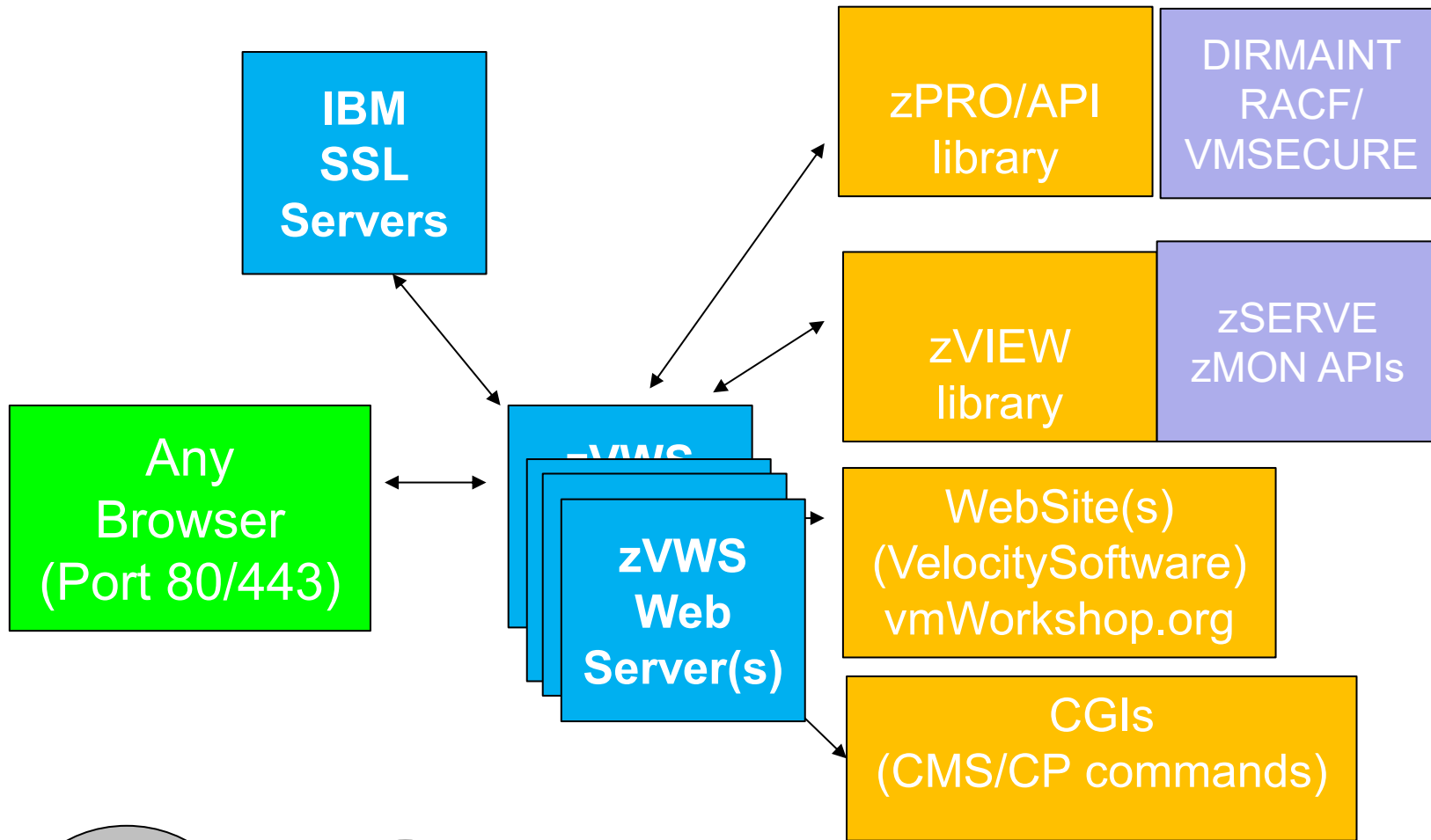
## VelocitySoftware.com (all runs on z/VM natively – **Secure, Simple**)

- VelocitySoftware.com, VelocitySoftware.de, VelocitySoftware.net, etc
- Linuxvm.org, MVMUA.org (and other user groups)
- VMWorkshop.org (greatest conference for z/VM)

## **Many customers utilize zVWS for their own applications (govt, financial)**

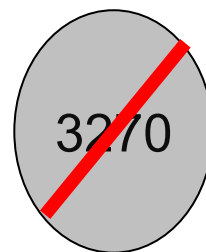
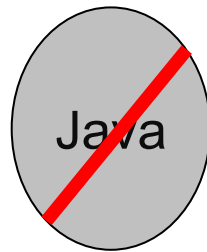
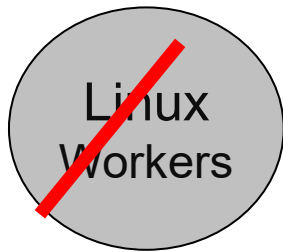
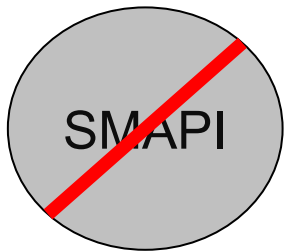
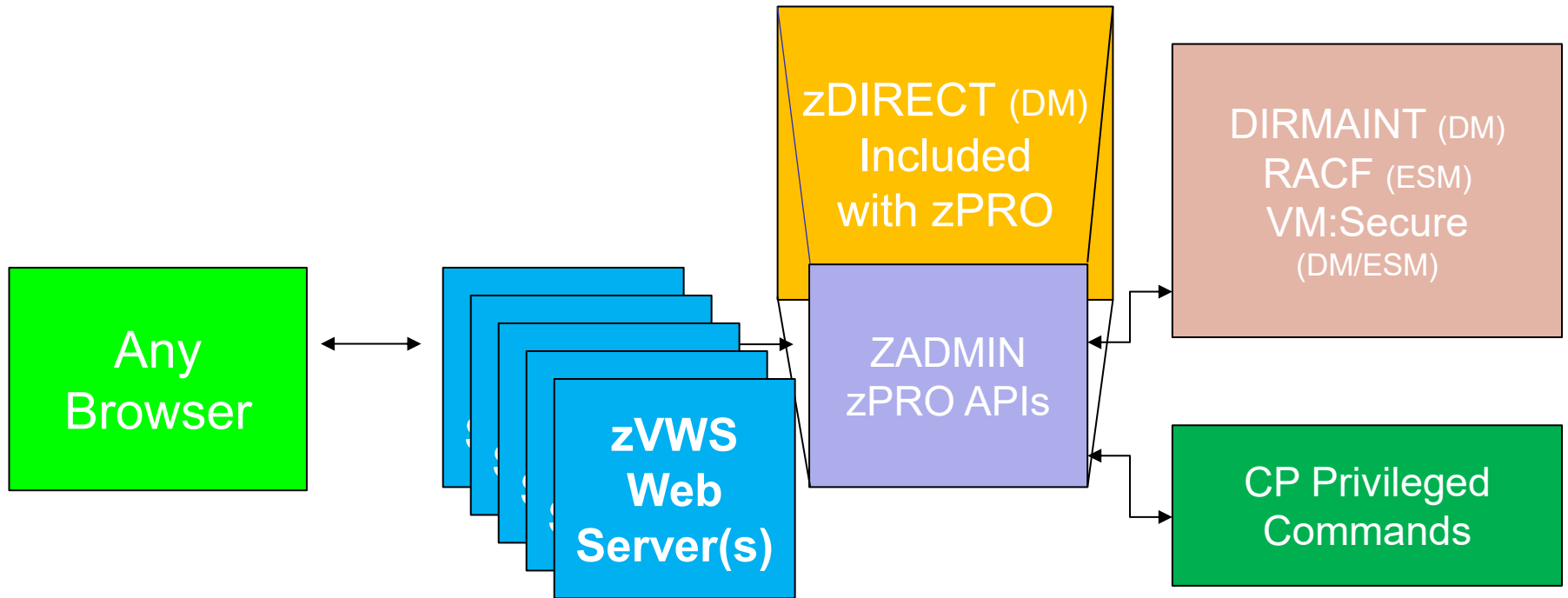
### Applications provided by Velocity Software

- zVIEW (Performance data presentation “dashboard”s)
- zPORTAL (GUI interface to managing zVPS)
- zPRO - on prem cloud, modernizing the platform in many ways
- **No smapi, no java, No linux server requirements, no complexities**



## Linux Performance Management

- Lightweight, one click dashboards
- Full dashboard for all data (zVIEW)
- Provide data (VSIPump) to other dashboards
  - (Grafana, splunk, etc)
  - Linux, Oracle, MongoDB, Postgres, OpenShift
  - Secure container platform
  - Note: IBM “datapump” does not provide Linux data
- Manage performance (zVRM – Velocity Resource Manager)
  - Tailor Linux servers to meet current workload requirements
- Produce health reports
- Alert management (zAlert, zOperator)



# What the Linux admin might see on LinuxOne

The screenshot shows the Velocity Software zPRO Enterprise Cloud Management interface. The browser address bar displays `demo.velocitysoftware.com/zpro/`. The page title is "zPRO Enterprise Cloud Management VSIVC1". The user is logged in as "IAMUSER".

The interface includes a sidebar with navigation options: "Create Servers" (Request CMS virtual machine, Request RHEL 8.5 Linux, Request RHEL 9 Linux, Request SLES 15 Linux, Request Ubuntu 17.10 Linux), "Server Management", and "View Resources".

The main content area shows a "Server List for IAMUSER" table with columns for selection, server name, and status. The table lists servers SLFSRV11, SLFSRV14, and SLFSRV15. A terminal window titled "Session 1 - SLFSRV11" is open, displaying the following output:

```
zPRO
Command Interface to SLFSRV11 ready
ls
Running: ls
bin
boot
dev
etc
home
lib
lost+found
media
mnt
opt
proc
root
run
sbin
srv
sys
tmp
usr
var
>> ls usr
```

# What the Linux admin might see on LinuxOne

demo.velocitysoftware.com/zpro/

VELOCITY SOFTWARE zPRO Enterprise Cloud Management VSIVC1 IAMUSER Settings

Auto Arrange Refresh All Minimize All Close All

Create Servers  
 Request CMS virtual machine  
 Request RHEL 8.5 Linux  
 Request RHEL 9 Linux  
 Request SLES 15 Linux  
 Request Ubuntu 17.10 Linux

Server Management  
 View Resources

CloudDemo

Server List for IAMUSER

Line 1 of 3  Running  Down  Changing State

Sel	Server	Description	Hostname	IP Address	Owner	Group	Expiration	System
<input type="checkbox"/>	SLFSRV11	UBUNTU 17.10 Linux for IAMUSER	slfsrv11	10.0.0.7	IAMUSER	ENDUSER	NONE	VSIVC1
<input type="checkbox"/>	SLFSRV14	RHEL 9 Linux for IAMUSER on Demo	slfsrv14	10.0.0.2	IAMUSER	ENDUSER	NONE	VSIVC1
<input type="checkbox"/>	SLFSRV15	Full SLES 11 Linux for IAMUSER	slfsrv15	10.0.0.3	IAMUSER	ENDUSER	NONE	VSIVC1

Actions View Log Details Edit MDisks Chg Password Cmd Win Spool Files

# What the Linux admin might see on LinuxOne

The screenshot shows a web browser window at `demo.velocitysoftware.com/zpro/`. The page title is "VELOCITY SOFTWARE zPRO Enterprise Cloud Management VSIVC1". The user is logged in as "IAMUSER" with "Settings" options. The interface includes a navigation sidebar on the left with "Create Servers" (Request CMS virtual machine, Request RHEL 8.5 Linux, Request RHEL 9 Linux, Request SLES 15 Linux, Request Ubuntu 17.10 Linux), "Server Management", and "View Resources". The main content area is titled "Edit Guest - SLFSRV11" and contains the following configuration details:

- Description:** UBUNTU 17.10 Linux for IAMUSER
- Virtual CPUs (Note: Restart the server after changing):** 2
- Adjust Relative SHARE on vCPU change
- Virtual Memory:** 256 M
- Standby Virtual Memory:** G
- Maximum Virtual Memory:** 256 M
- Enabled (can be Started)
- Disabled (cannot be Started)

An "Update" button is located at the bottom of the configuration panel. The interface also features window controls at the top: "Auto Arrange", "Refresh All", "Minimize All", and "Close All".

## z/VM Administrators to support on-prem cloud

- Lun management – browser based
- Spool management – browser based
- Scheduling – browser based
- Backup / Restore – browser based
- HMC management (LPAR configurations)
- New 3270 requirements can be “zpro’d”

## z/VM Systems Programmers

- 3270 required, z/VM skills required
- Performance management
- Software updates (services contracts available)
- System configuration management (page/spool packs)

## Event Scheduler

- Schedule and manage events across your systems

## zDIRECT: Directory and Storage Pool management

- Add/Delete DASD volumes in your storage pools

## zSPOOL: Spool management

- Manage all spool files
- View **via browser** open or closed spool files
- Allow Linux administrators to view their Linux consoles easily

## Backup & Restore

- Backup and restore key/critical files
  - (system config, directory, TCPMAINT)
- Back up files on selected minidisks, sfs file pools

## Shared File System (SFS) Management

- Manage pool servers, users/admins, space management,
- build a new pool

# What the z/VM sys prog might see on LinuxOne

VELOCITY SOFTWARE zPRO Enterprise Cloud Management VSIVM1 (Corporate) New Notifications (2) BARTO Setting

Auto Arrange | Refresh All | Minimize All | Close All

z/VM Shared File Systems Management

Line 1 of 2

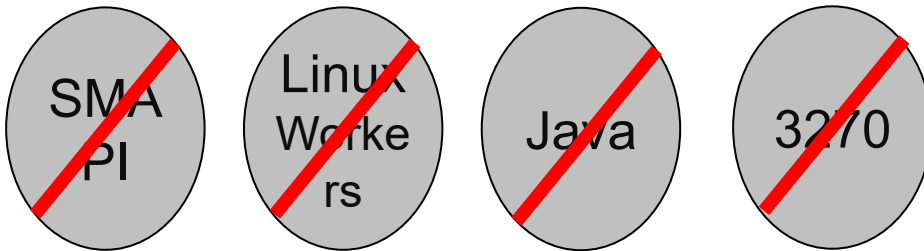
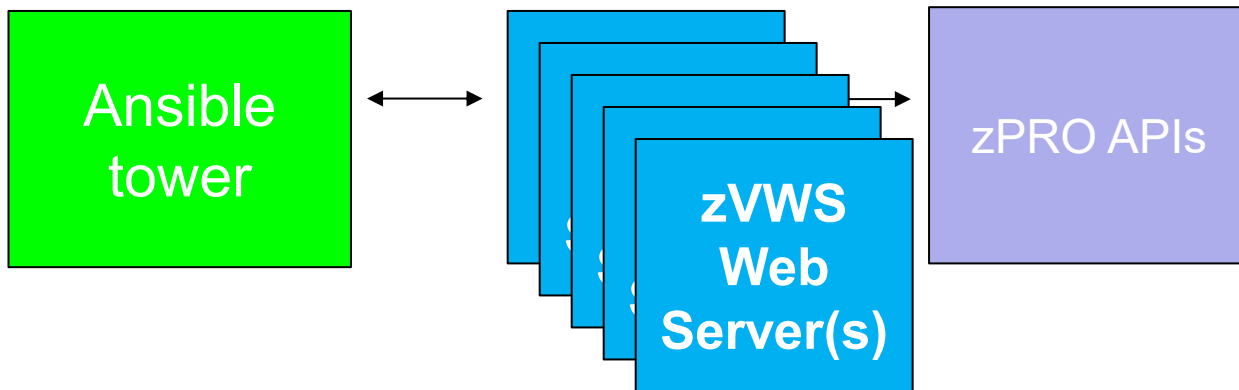
Click  Function  Description

Op   Line 1 of 18

Sel <input type="checkbox"/>	System <input type="checkbox"/>	Pool Name <input type="checkbox"/>	Owning Userid <input type="checkbox"/>	Res Type <input type="checkbox"/>	Pool Type <input type="checkbox"/>	Stg Groups <input type="checkbox"/>	Authorized <input type="checkbox"/>
<input type="checkbox"/>	VSIVM1	BFSSRVR	BFSSRVR	GLOBAL	LOCAL	2	ADMIN
<input type="checkbox"/>	VSIVM1	MVMUA	MVMUA	GLOBAL	LOCAL	2	ADMIN
<input type="checkbox"/>	VSIVM1	SFSVM1	SFSVM1	GLOBAL	REMOTE	2	ADMIN
<input type="checkbox"/>	VSIVM1	SFSZVPS1	SFSZVPS1	GLOBAL	REMOTE	2	ADMIN
<input type="checkbox"/>	VSIVM1	S64SRV11	VMSEVP	GLOBAL	LOCAL	2	LIMITED
<input type="checkbox"/>	VSIVM1	VMSYS	VMSEVP	LOCAL	LOCAL	2	LIMITED
<input type="checkbox"/>	VSIVM1	VMSYSU	VMSEVP	LOCAL	LOCAL	2	USER
<input type="checkbox"/>	VSIVM1	VSIFTP	VSIFTP	GLOBAL	REMOTE	2	ADMIN
<input type="checkbox"/>	VSIVM1	VSIPRB	VSIPRB	GLOBAL	REMOTE	2	ADMIN
<input type="checkbox"/>	VSIVM1	VSIWEB	VSIWEB	GLOBAL	LOCAL	2	ADMIN
<input type="checkbox"/>	VSIVM1	WORKSHOP	WORKSHOP	GLOBAL	REMOTE	2	ADMIN
<input type="checkbox"/>	VSIVM4	ESAWEB	ESAWEB	GLOBAL	LOCAL	2	ADMIN
<input type="checkbox"/>	VSIVM4	LINUXVM	LINUXVM	GLOBAL	LOCAL	2	ADMIN

List Users | List Admins | All Directories | Full Report | Add Disk to SFS Pool

Default Site: Enable Pause  
Corporate  
DemoSYS4  
Development



## Very Simple architecture

- Simple to install (hours to install and tailor, requires zVPS)
- Uses Velocity Software's Native z/VM Web Server (zVWS)!
- No “smapi”, **No “linux server” requirements**, No java
- **Non-intrusive, no system modifications**
- Outside services not required
- (as compared to xcat, cma, ....)

## Original Intent: Private Cloud infrastructure

- Users create and manage their servers without systems support
- Protected environment
- Linux administrators can manage their “Virtual Machine”

## Benefits

- Difficult time consuming tasks - simplified
- End users empowered
- Reduced need for skilled systems programmers

## zPRO'd other complex tasks

- Lun/Edev management – connects directly to DS8K / EMC
- LPAR management – connects directly to HMC
- Linux management – API allowing Linux commands
- Directory management – DIRMAINT, VMSecure, zDIRECT
- RACF wizard
- Restful APIs replace SMAPI

## Empower your users!

“demo.VelocitySoftware.com/zPRO”

- Linux server administration
- Demo limited to “cloud” functionality
- Create servers, modify servers, delete servers
- Limited in scope to protect other servers
- Automatic life cycle management
- Used for education

## Velocity Software demonstration site

- "http://demo.VelocitySoftware.com"
- zVIEW, enterprise, zPRO, zPORTAL

To register: <https://demo.velocitysoftware.com/zpro/>

Userid: **demozpro**

Password: **demodemo**

Check email for  
your login info

### Welcome to the Velocity Software zPRO Demo Site

Velocity Software maintains a cloud for demonstration purposes and for supporting your education needs.

If you do not yet have a Demo System userid, login with the userid of DEMOZPRO and password DEMODEMO to create one.

If you need assistance, contact [support@velocitysoftware.com](mailto:support@velocitysoftware.com)



**Register for VSI Cloud** ⓘ ✕

You are requesting a **limited access** id for working with Velocity Software's zPRO cloud product.

First name

Last name

User's Email address

## zVPS:

- Continuous enhancements for 30+ years
- Enterprise Monitoring and Management

## zPRO & zVRM

- On-Prem Private Cloud Enablement and Environment
- z/VM Systems Management
- Modern Platform and management
- Improved productivity for all parties
- Reduces impact of lack of skills

## zTUNE

- Performance Recommendation and Tuning Report

## Velocity Software

- Worldwide customer base
- World's best for Performance Management experts

### **zVPS** **PERFORMANCE SUITE**

THE WORLD'S LEADING PERFORMANCE MANAGEMENT SOLUTION FOR Z/VM WITH LINUX AND/OR VSE. NEWLY ADDED SUPPORT FOR Z/OS PLUS NO-CHARGE MONITORING FOR X86 LINUX AND WINDOWS.



### **zPRO** **CLOUD MANAGEMENT**

SOLUTION FOR MODERNIZING THE Z/VM PLATFORM, ADDING ON-PREM CLOUD SUPPORT WITH WEB-BASED CONTROLS FOR Z/VM SYSTEM MANAGEMENT PLUS LPAR CLONING AND ANSIBLE PLAYBOOKS USING VELOCITY'S HIGHLY AVAILABLE SMAPI-FREE API'S.



### **zTUNE** **SUPPORT SUBSCRIPTION**

VELOCITY SOFTWARE'S ELITE PERFORMANCE SUPPORT SERVICE THAT CREATES AUTOMATED DAILY REPORTS WITH RECOMMENDED ACTIONS



### **zVRM** **RESOURCE MANAGER**

REAL-TIME MANAGEMENT FACILITY FOR Z/VM WITH LINUX THAT AUTOMATES SYSTEM SETTINGS USING KNOWLEDGE-BASED INTELLIGENCE TO TUNE WORKLOAD REQUIREMENTS AND OPTIMIZE OVERALL SYSTEM PERFORMANCE.





**Helping To  
Make  
zPenguins  
Fly Since  
2001**



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- z/VM Systems Management
- Mainframe Modernization
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VMWorkshop registration is now open, JUNE 2026. [VMWORKSHOP.ORG](http://VMWORKSHOP.ORG)  
GS-UK will have track dedicated to z/VM and VSEn, NOV 2026

## Velocity Software Education Announcement

- Velocity Software boot camps will be announced in May, 2026
- Boot camps will start July, 2026
- Plan for 3 hours per day, early EST time zone.
- Education provided at no charge, all remote
- Maximum 100 students per section
- Agenda includes
  - Intro to z
  - Intro to z/VM
  - CMS
  - Operating Guests
  - Systems programming, and more