

Velocity Software does z/OS

GSE - UK

www.VelocitySoftware.com

www.LinuxVM.com

“If you can’t Measure it,
I am Just Not Interested™”

- **Who is Velocity Software**
 - Performance Management Overview
- **Why zOSMON™**
- **Velocity Technology**
- **zOSMON™**

Who is Velocity Software

Founded 1988, Mission: **Provide software to assist customers in optimizing the VM platform:**

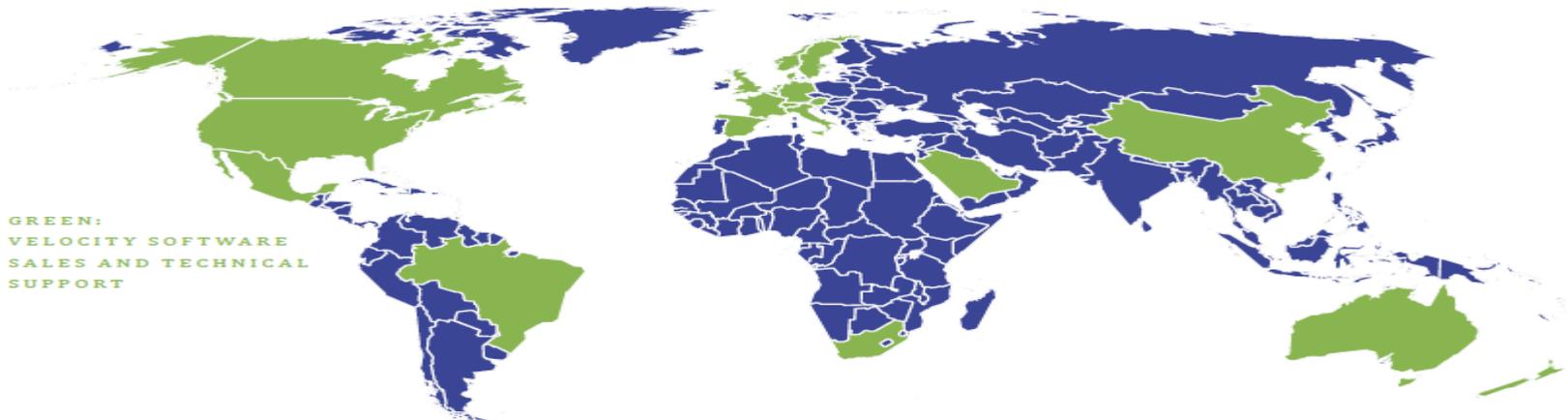
First VM/XA performance product on market (XAMAP/XAMON)

Continuous fully integrated enhancements over 30 years

200+ Installations (zVPS) **(more than ½ IFLs world wide)**

22 countries, 6 continents

Velocity Software's Sales and Technical Support Map



Industries using Linux and Velocity Software

Banking, Financial:

Government / Military:

Health Care, Insurance, Retail

**Manufacturing: Automotive, computing, Oil
Outsourcing**

Velocity Software zVPS Provides:

- **z/VM Performance Monitor (for 31 years)**
- **NETWORK Monitoring (for 20 years)**
- **Linux on “Z” Monitoring (for 18 years)**
- **Oracle, Websphere Monitoring (for 10 years)**
- **VSE Monitoring (for 5 years)**
- **No charge features**
 - zOPERATOR for fully INTEGRATED operations management console
 - zALERT for supporting fully INTEGRATED operations
 - Distributed server monitoring (Linux, Microsoft)

Velocity Software in 2019: zVPS 5.1

New Technologies

- Docker (thousands of containers)
- MongoDB (see Marriott presentation at SHARE)
- z/VM 7.1 (fcp, edev, diagnose, 80 cores/threads)
- SPLUNK “<http://VelocitySoftware.com/splunk.html>”
- IBM Secure Software Container (collectd)
- VSE CICS
- zOSMON™ - Currently Record types 30, 70, 110
 - See <HTTP://VelocitySoftware.com/zOSMON.HTML>”
- Z15: MFC data (SMF 113) supported! (zVPS only consumer)

Performance Management Requirements

Performance Management User Requirements

- Performance Analysis
- Operational Alerts
- Capacity Planning
- Accounting/Charge back

Correct data (Virtual Linux CPU data wrong - SMT)

Capture ratios (is the data valid?)

Remember, 3 kinds of performance monitors

1. Products Used for performance Management
2. Products Used for Diagnostics
3. Products Turned off when there's a cpu problem

Management can not be the problem....

Infrastructure Requirements: Performance Analysis

Why Performance Analysis: Service Level Mgmt

- Diagnose problems real time
- PLATFORM SPECIFIC....
- Analyze all z/VM Subsystems in detail, real time
 - (DASD, Cache, Storage, Paging, Processor, TCPIP)
- Analyze Linux
 - (applications, processes, processor, storage, swap)
- Historical view of same data important
 - Why are things worse today than yesterday?
 - Did adding new workload affect overall throughput?
 - Know who/what is using resource and how to re-allocate
 - SEND IT FOR ANALYSIS.... WE LIKE DOING RESEARCH

Infrastructure Requirements: Capacity Planning

Why Capacity Planning: Future Service Levels

- How many more servers can you support with existing z14?
- What is capacity requirements for an application? (on x?)
- **Avoid crises *in advance***

Why Chargeback?

- Distributed chargeback model is by server (does NOT port to Z!)
- Shared chargeback model is by resource consumption
- **Encourages efficient/effective resource use**
- **Align IT to your business model**

Operational Requirements

- Operations will manage 100's (1000's) of servers
- Requires active performance management
- **Alerts** for processes in loops, disks 90% full, missing processes
- **zALERT always needed**
- **zOPERATOR, if no enterprise monitor, or do it anyway**

zVPS does “End to End” Performance Management

- **Management wants**
 - “single pane of glass” - One tool that does all (and well)
- **Complete performance management includes:**
 - z/VM System Level: CEC, LPAR data, ALL SubSystems
 - Linux – Storage, CPU, file system, network
 - Process – applications, performance data
 - Network monitor
 - VSE: partitions, CPU, I/O, CICS
 - **z/OS: CICS(110), BATCH (30), SYSTEM (70)**
- **Application subsystem analysis**
 - Java, WAS, **Oracle**, MongoDB, Docker (MQ, DB2)
- **Outside “Z” server platform analysis**
 - **Linux on “x”, VMWare**, KVM, Secure Software Container
 - Microsoft servers
 - VPN, gateways, utilities

Velocity Software technology

Architecture for 31 years

- Very simple architecture
- Very extensible data collection
- Very extensible data viewing
- **VERY VERY MODERN (we**
- **VERY VERY EFFICIENT**

Architecture targeted to support FULL performance mgmt

- Performance Analysis
- Capacity Planning
- Operational Support
- Chargeback

Customers ask for it:

- Efficient (Perf Mgmt takes too many MSU)
- Fast: Real time monitoring is not a two minute response
- Centralized Data: How many LPARs can we do?
- Don't want to learn SMF
- Inexpensive: Ask Maggie...

My objective: Low cost performance management

- Real time Performance Analysis
- Easy Capacity Planning
- Chargeback capabilities
- Operational Alerts

z/VM Performance monitor architecture

Traditional model (1989)

ESAMON/zMON: Real time analysis

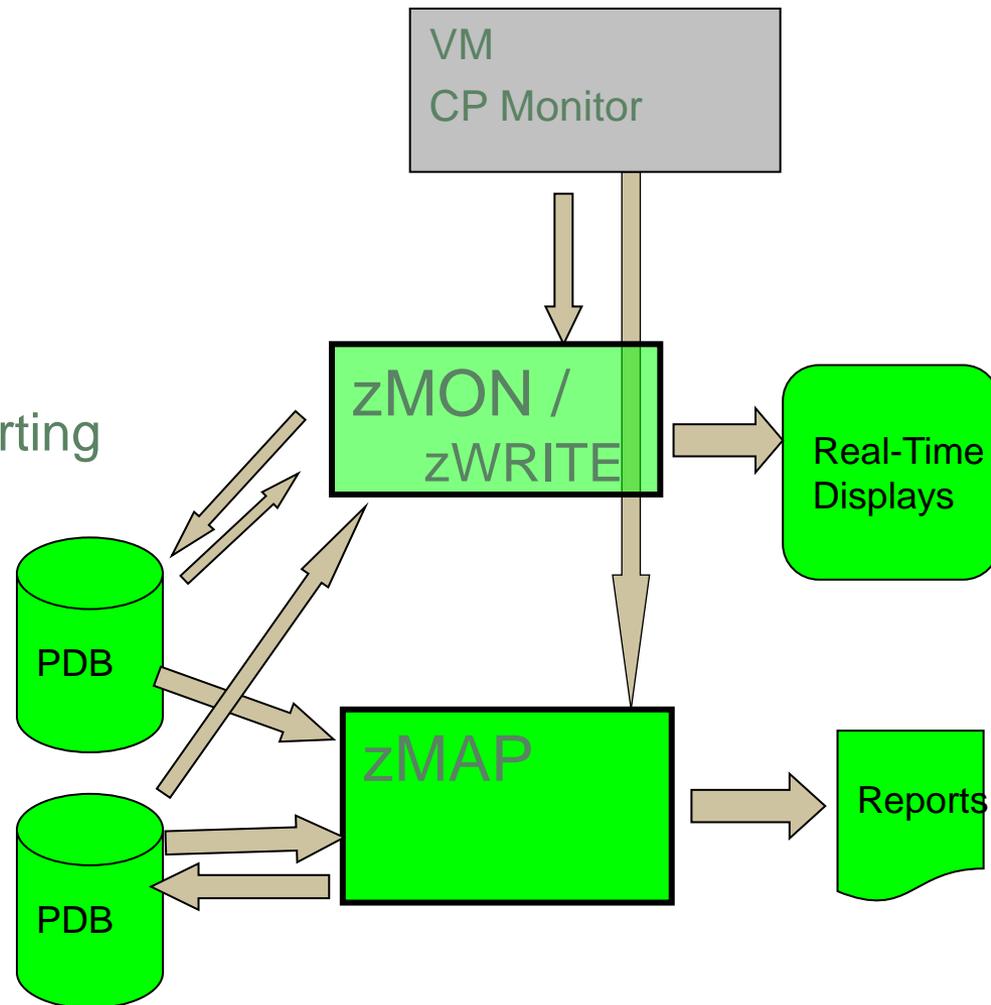
- Uses Standard CP Monitor
- Real Time Analysis

ESAMAP/zMAP: Performance Reporting

- Post (midnight) Processing
- Creates Long Term PDB
- PDB or monwrite data input

PDB (Performance DataBase)

- Complete data
- By Minute, hour, day
- Monthly/Yearly Archive



```
Screen: ESAUSP2 Velocity Software - VSIVM4 ESAMON 4.090 01/18 17:09-17:10
1 of 3 User Percent Utilization CLASS * 2096 44B42
```

Time	UserID /Class	<Processor>		<-----Main Storage----->		Lock -ed	<-WSSize-->	
		Total	Virt	Total	Actv		Total	Actv
17:10:00	System:	15.32	14.23	667K	665K	5448	675K	665K
	REDHAT	4.58	4.53	281K	281K	1997	284K	284K
	TEST	3.56	2.98	161K	161K	844	161K	160K
	*TheUsrs	3.12	3.02	57661	57645	290	59127	57322
	SUSE	1.63	1.57	109K	109K	839	109K	108K
	ORACLE	0.96	0.96	50503	50503	66	50437	50437
	Velocity	0.93	0.90	4552	3444	28	7385	3401
	KeyUser	0.36	0.15	2973	2973	1379	1898	1573
	Servers	0.17	0.13	943	520	5	1874	495

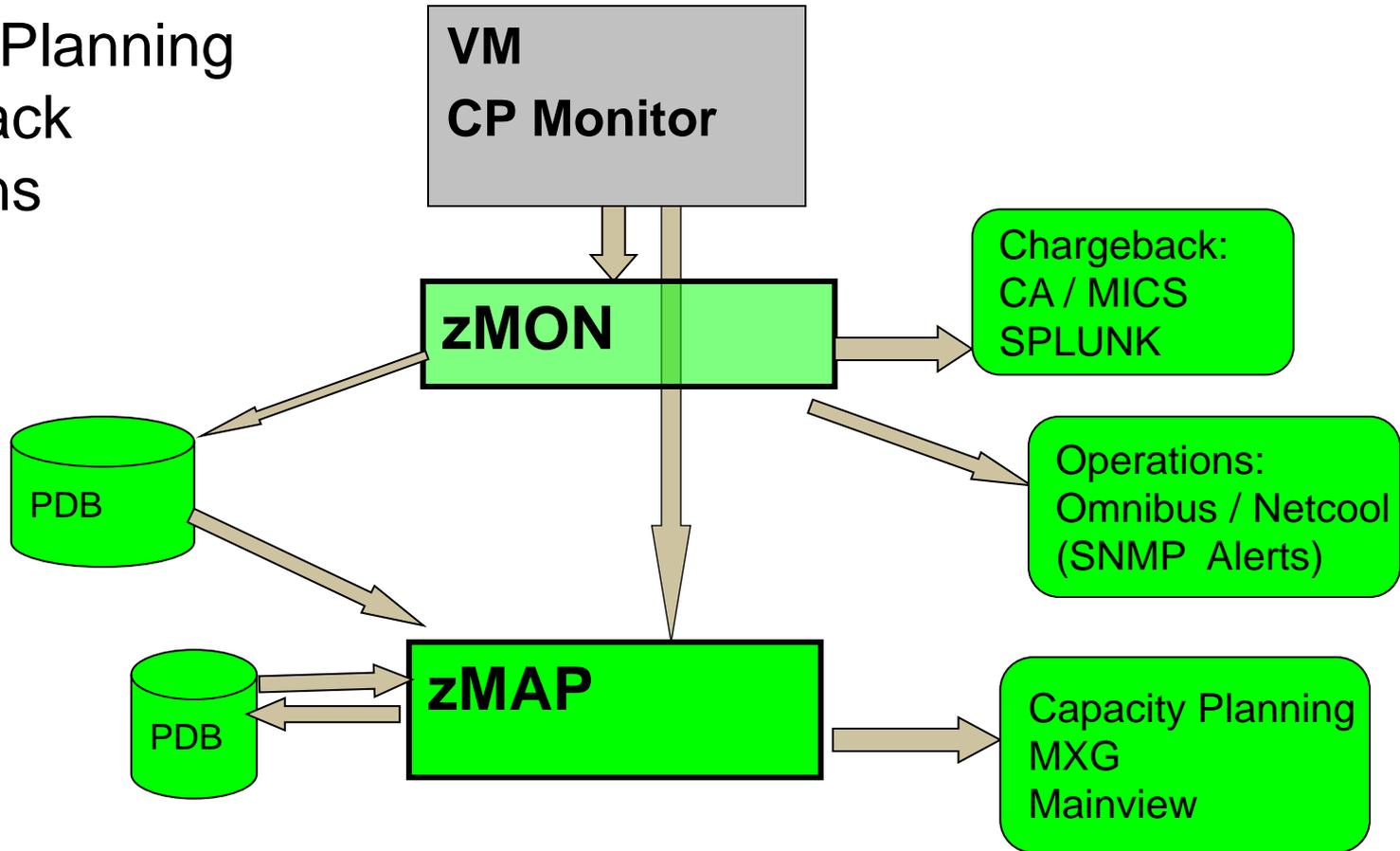
Hit PF2 to zoom on SUSE class, get:

```
Screen: ESAUSP2 Velocity Software - VSIVM4 ESAMON 4.090 01/18 17:11-17:12
1 of 3 User Percent Utilization CLASS SUSE USER * 2096 44B42
```

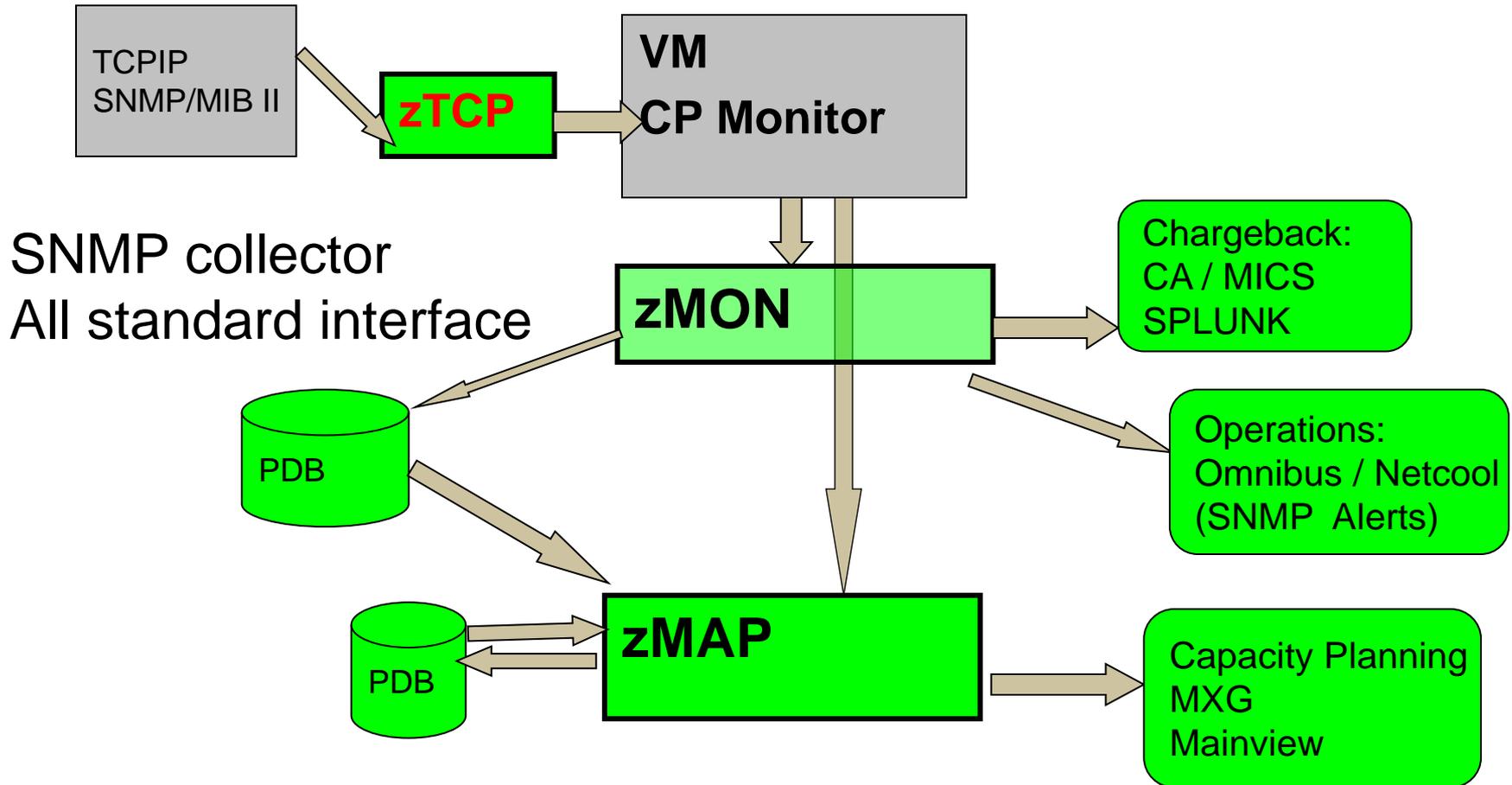
Time	UserID /Class	<Processor>		<-----Main Storage----->		Lock -ed	<-WSSize-->	
		Total	Virt	Total	Actv		Total	Actv
17:12:00	SLES11X	0.39	0.39	24223	24223	247	23976	23976
	SLES11	0.32	0.32	12404	12404	181	12199	12199
	SUSELNX2	0.25	0.23	3648	3648	0	3628	3628
	SLES9X	0.21	0.21	14632	14632	35	14597	14597
	SLES10	0.20	0.20	28935	28935	299	28636	28636
	SLES9	0.20	0.20	12722	12722	177	12545	12545
	SLES8	0.06	0.03	11251	11251	0	11201	11201
	SLES8X	0	0	0	0	0	890	0
	SUSELNX1	0	0	0	0	0	219	0

Add Enterprise Support

Capacity Planning
Chargeback
Operations

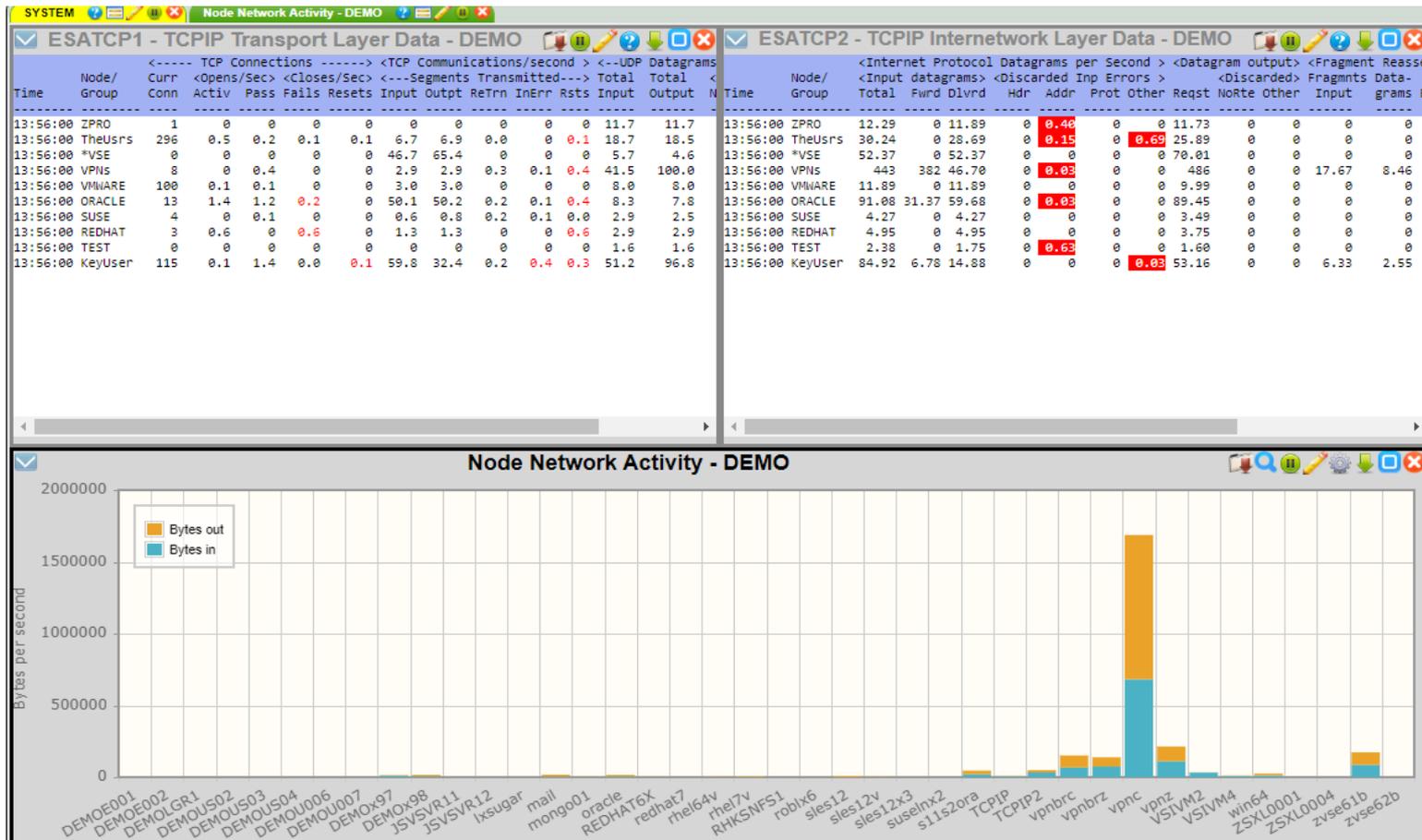


Add "Network" Support – Pre Linux

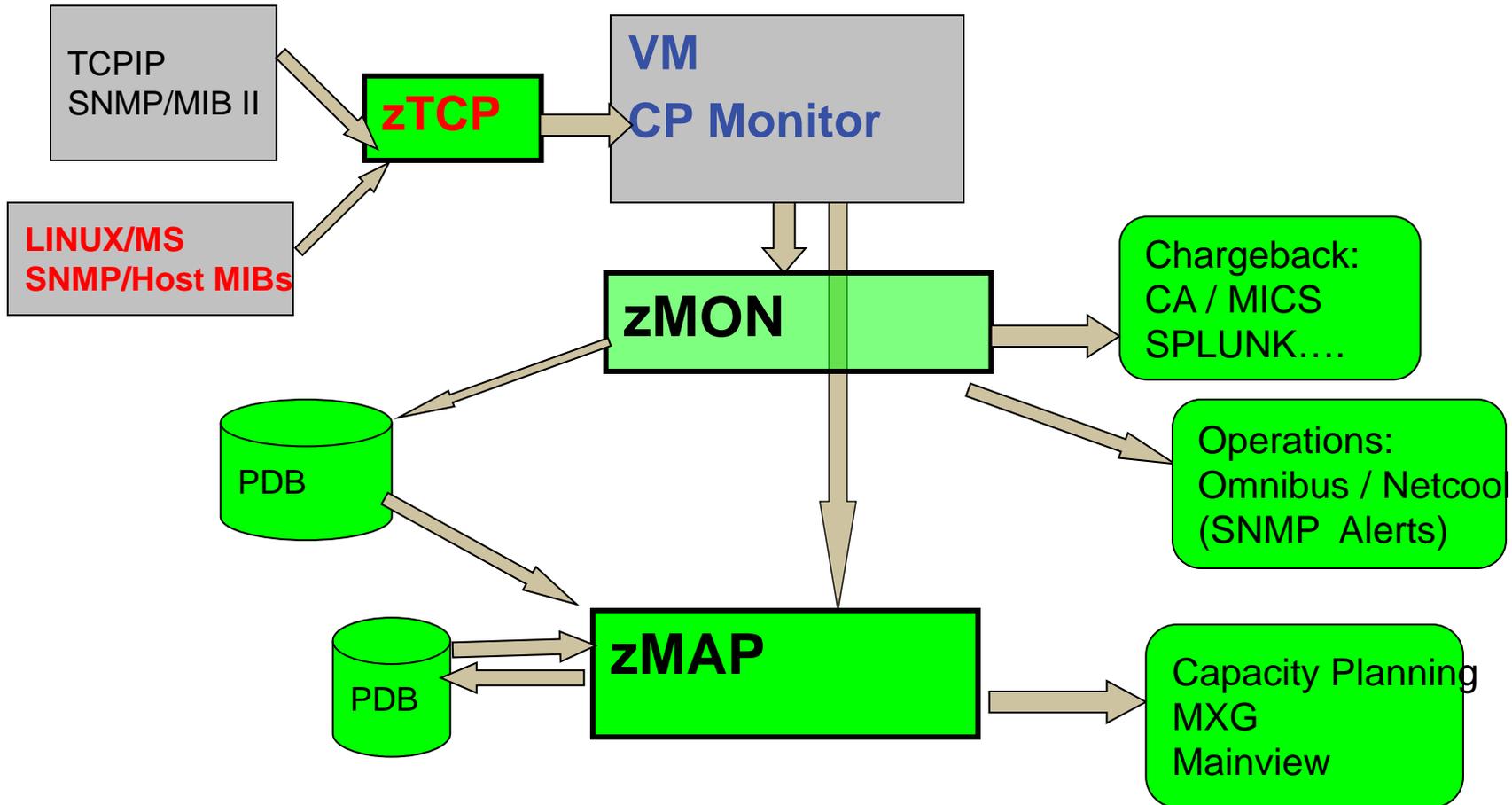


Full Network Monitor

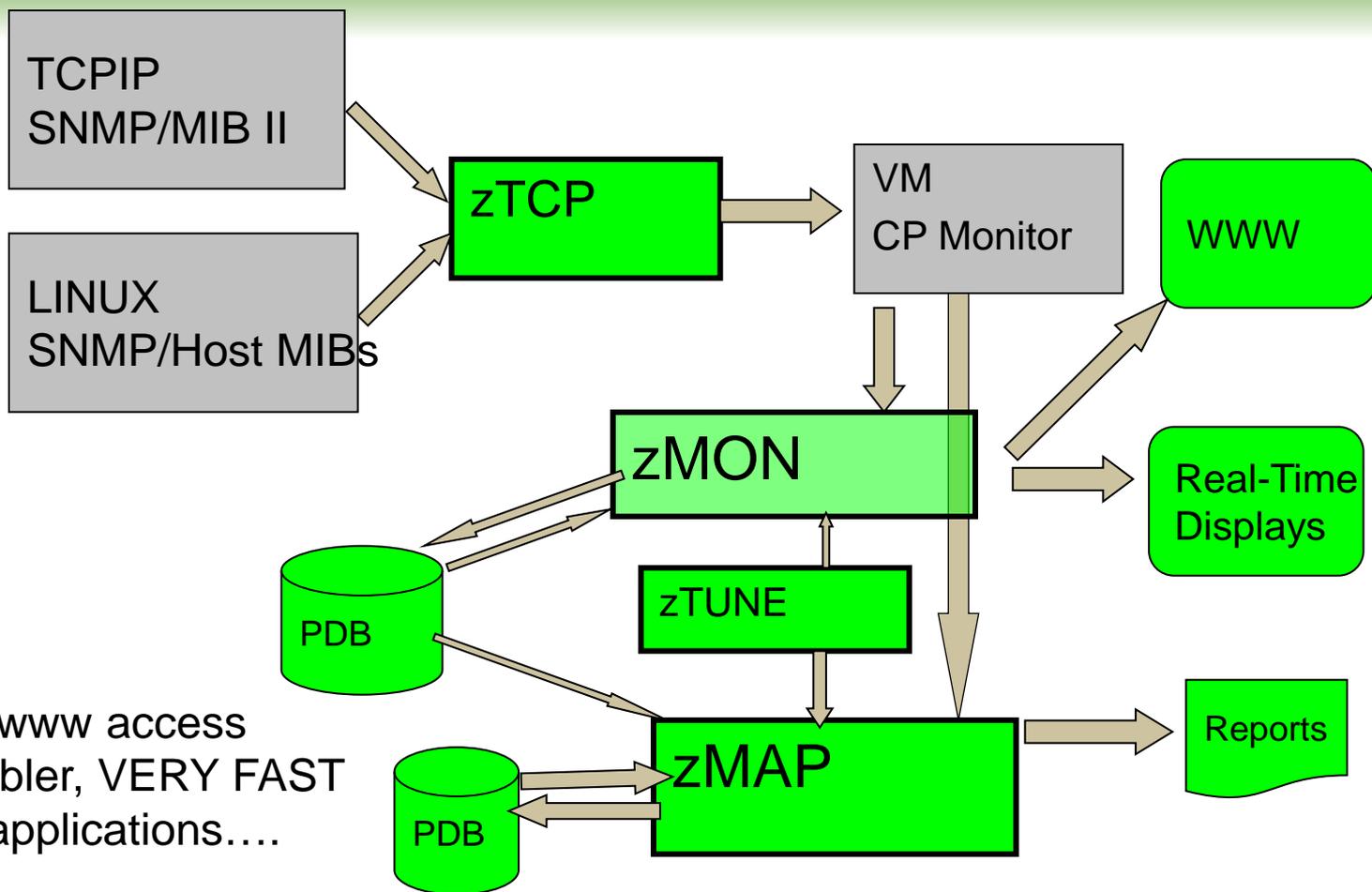
MIB II: Transport layer, IP layer, hardware layer, icmp
 Transport layer data shows connections, TCP rates, UDP rates



Add snmp "host" Support



Modernize: Webserving, performance skills



ZVWS Provides www access
Written in assembler, VERY FAST
Many customer applications....

zTUNE: Rules based analysis

Tailorable, expandable, zoomable

Today is Monday 2 Dec 2013 zVIEW Version 4159

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

First level

VSIVM1	Expand	VSIVM2	Expand	VSIVM3(old)	Expand
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%		LES11T 2.29%	
suselnx3 (9) 2.57%		RH5Z161 0.37%		Linux Nodes (Distributed Servers)	
REDHAT (2) 2.30%				PENSUSE 7.68%	

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

Tims Test System

Tim1.2	13/11/27	13:09	IFL Total (1)	0.10%
Linux Nodes (z/VM-Guests)				
	1.85%			
	1.50%			
	0.85%			
redhat56	0.57%			

Drill down Options – How fast is fast?

Nednesday 7 Nov 2018 00:46

zVIEW Version 4310



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

Menu

mylinux

Node	Process Name	ID	P
ZSXL0006	systemd	1	
ZSXL0006	kthreadd	2	
ZSXL0006	kworke/0:0	3	
ZSXL0006	kworke/0:0H	4	
ZSXL0006	mm_percpu_wq	6	
ZSXL0006	ksoftirqd/0	7	
ZSXL0006	rcu_sched	8	
ZSXL0006	rcu_bh	9	
ZSXL0006	migration/0	10	
ZSXL0006	cpuhp/0	11	
ZSXL0006	kdevtmpfs	12	
ZSXL0006	netns	13	
ZSXL0006	khungtaskd	14	
ZSXL0006	oom_reaper	15	
ZSXL0006	writeback	16	
ZSXL0006	kcompactd0	17	
ZSXL0006	ksmd	18	
ZSXL0006	crypto	19	
ZSXL0006	kintegrityd	20	
ZSXL0006	kblockd	21	
ZSXL0006	md	22	
ZSXL0006	cio	23	
ZSXL0006	watchdogd	24	
ZSXL0006	kworke/0:1	26	
ZSXL0006	cmthread	27	
ZSXL0006	kauditd	28	
ZSXL0006	kswapd0	29	
ZSXL0006	ecryptfs-kthrea	30	
ZSXL0006	kthrotld	32	
ZSXL0006	khvcd	73	
ZSXL0006	kmcheck	74	
ZSXL0006	ipv6_addrconf	75	
ZSXL0006	kworke/0:1H	148	
ZSXL0006	kworke/u128:3	150	
ZSXL0006	jbd2/dasda1-8	172	
ZSXL0006	ext4-rsv-conver	173	
ZSXL0006	vfio-ccw	301	
ZSXL0006	qeth_wq	322	
ZSXL0006	kworke/u128:0	7826	
ZSXL0006	systemd-journali	212	
ZSXL0006	systemd-udev	235	
ZSXL0006	systemd-timesyn	272	
ZSXL0006	cron	353	

ESALNXP - VSI Linux Percent Usage by Process - DEMO

Time	Node	Name	ID	PPID	GRP	Tot	sys	user	syst	usrt	valu	valu	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	14
00:46:00	lxdb2001	init	1	1	1	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	-10	10	29.7	13.4	37.1	0	17.3	0.1	0.0	1:	
00:46:00	lxdb2001	cron	2223	1	2223	0.1	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	0.1	0.3	0	20	50.9	13.9	51.0	0	3.5	0.2	0.1	4:
00:46:00	lxdb2001	db2sysc	2833	2831	2833	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	amozxma0	1503	1	1503	0.0	0.0	0	0	0	0	20	250	10.1	314	0.9	66.3	0.1	0.4	2:

ESAHST2 - LINUX HOST Storage Analysis Report - DEMO

Time	Node/Group	Index	Size	Used	Full	Err	Units	R/W	Boot	Storage	Description
00:46:00	ZPRO	0	196K	109K	55.7	0	1K			Totals	
00:46:00	VPNS	0	5376	5376	100	0	1K			Totals	

ESAUCD2 - LINUX UCD Memory Analysis Report - DEMO

Time	Node/Group	Real Storage (MB)	SWAP Storage (MB)	Total	Storage in Use (MB)							
00:46:00	ZPRO	4600.3	1423.3106	6023.6106	40.6	107.5	4350	0	0	353	1070	0

ESAUCD4 - LINUX UCD System Statistics Report - DEMO

Time	Node/Group	Processor Total	Syst User	Pct Util	Idle	Swaps	Disk IO	Switch	Intrpt	Load A				
00:46:00	ZPRO	2.7	1.2	1.4	0	1188	0	0	0	56.7	2080.5	1023.7	0.49	0
00:46:00	VPNS	10.1	4.2	5.9	0	389	0	0	0	180.5	733.9	0.33	0	0

ESAHST4 - LINUX HOST System Statistics Report - DEMO

Time	Server	Num Users	Processes Current	Max (MB)	StgSz	Local Date	System Time	System Uptime	System Dev	System Initiali	Parameter
00:46:00	ZPRO	0	0	0	0	0	0	0	0	0	0

LPAR...

zVPS Enterprise View

Did I say scalable? A lot of LPARS....

ADP Associate Portal | VLB6 - Enterprise View | vlb6.mf.adp.com:1024/ZVIEW/ | Search

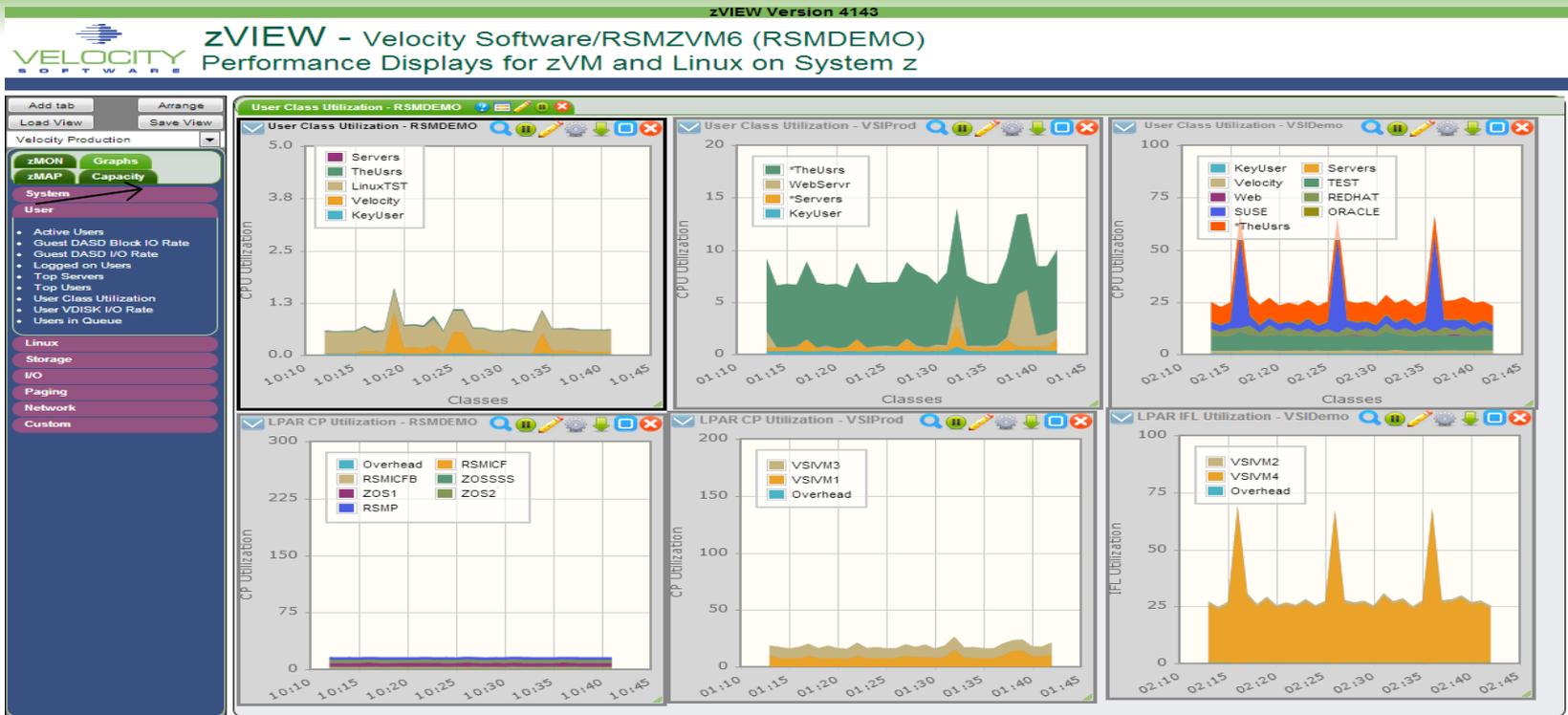
Today is Tuesday 23 Apr 2019 | zVIEW Version 4310

Enterprise Performance Summary | Finder | Search JASS Inventory

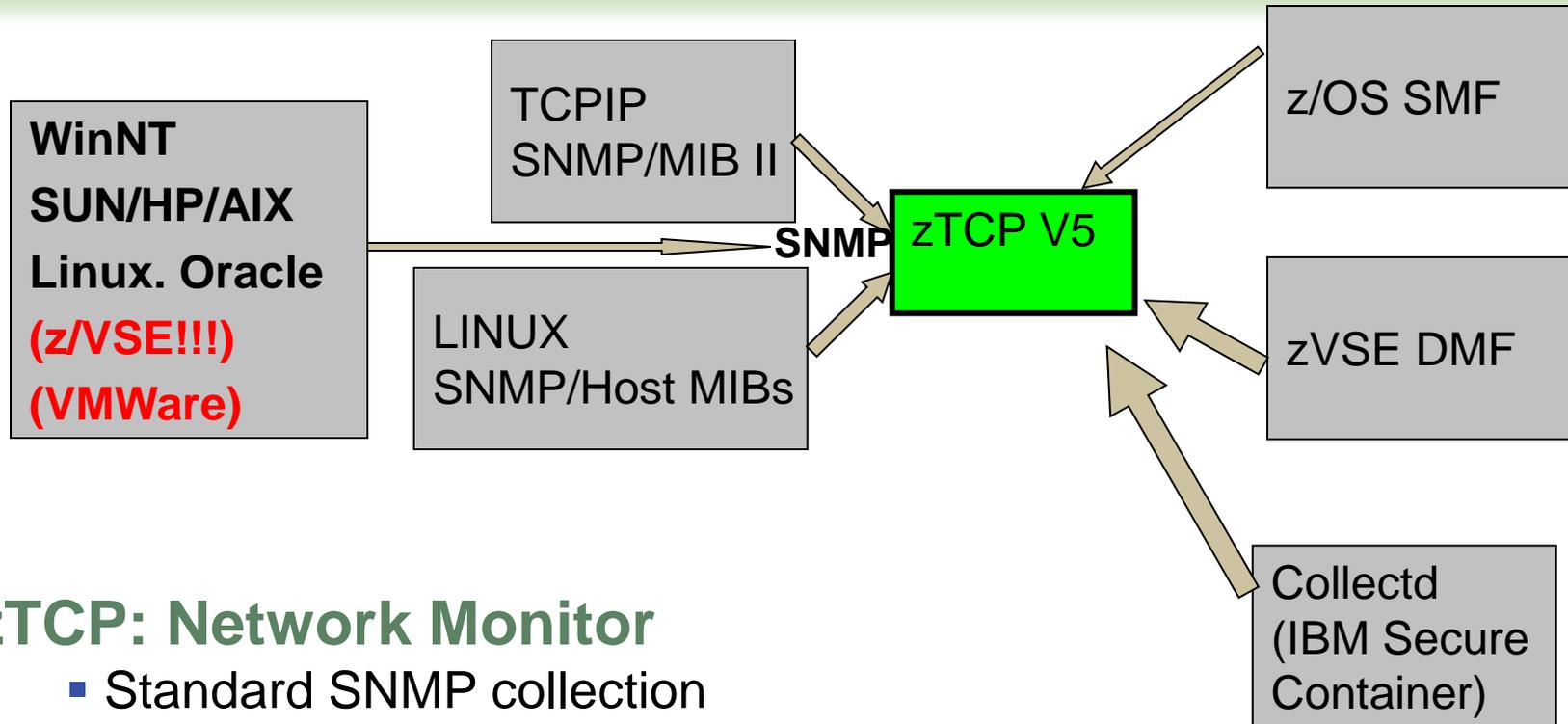
“some installations”

DC1			
V1P1	08:48	IFL Total (48) @ 726.4%	Expand
V1P2	08:48	IFL Total (48) @ 1144.68%	Expand
V1P3	08:48	IFL Total (48) @ 879.67%	Expand
V1P4	08:48	IFL Total (48) @ 1081.58%	Expand
DC2			
V2P1	08:48	IFL Total (48) @ 756.5%	Expand
V2P2	08:48	IFL Total (48) @ 846.3%	Expand
V2P3	08:48	IFL Total (48) @ 812.7%	Expand
V2P4	08:48	IFL Total (48) @ 899.1%	Expand
V2P5	08:48	IFL Total (40) @ 597.3%	Expand
V2P6	08:48	IFL Total (40) @ 854.40%	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) @ 1872.48%	Expand
P210	08:48	IFL Total (64) @ 1729.40%	Expand
P211	08:48	IFL Total (44) @ 1222.53%	Expand
P212	08:48	IFL Total (44) @ 895.74%	Expand
P213	08:47	IFL Total (40) @ 1173.87%	Expand
P214	08:48	IFL Total (56) @ 1265.42%	Expand
P215	08:48	IFL Total (56) @ 8400.97%	Expand
P216	08:48	IFL Total (40) @ 1202.33%	Expand
P217	08:48	IFL Total (40) @ 775.85%	Expand
P218	08:48	IFL Total (40) @ 768.81%	Expand
P219	08:48	IFL Total (48) @ 656.1%	Expand
P220	08:47	IFL Total (44) @ 699.74%	Expand
CDL			
VLB1	08:48	IFL Total (52) @ 2846.04%	Expand
VLB2	08:48	IFL Total (36) @ 2868.00%	Expand
VLB3	08:48	IFL Total (40) @ 2373.59%	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) @ 13.72%	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
HIL2	08:48	IFL Total (60) @ 92.92%	Expand

Multiple System View (3 LPARs)



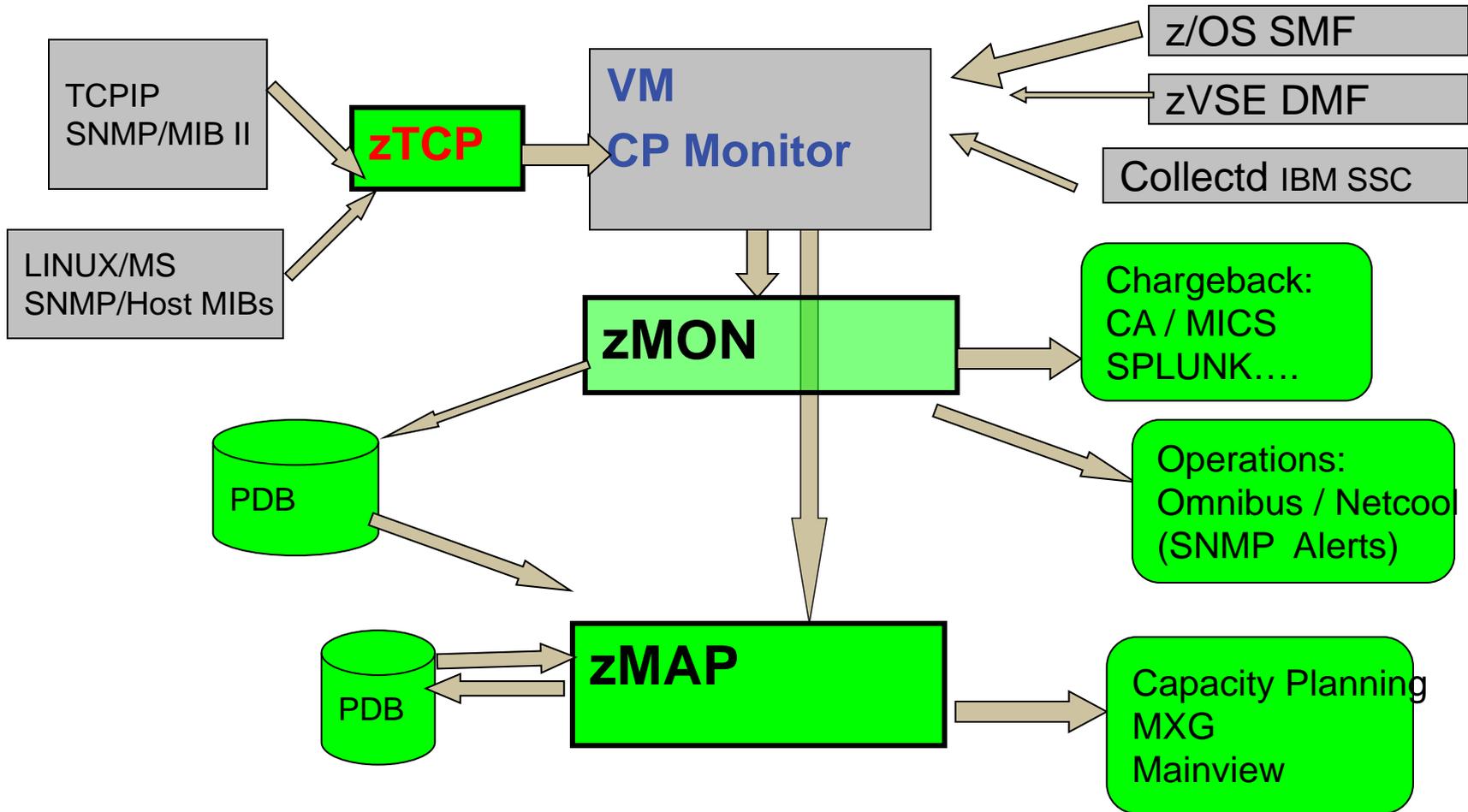
Data from multiple lpar's visible on "Single pane of glass"



zTCP: Network Monitor

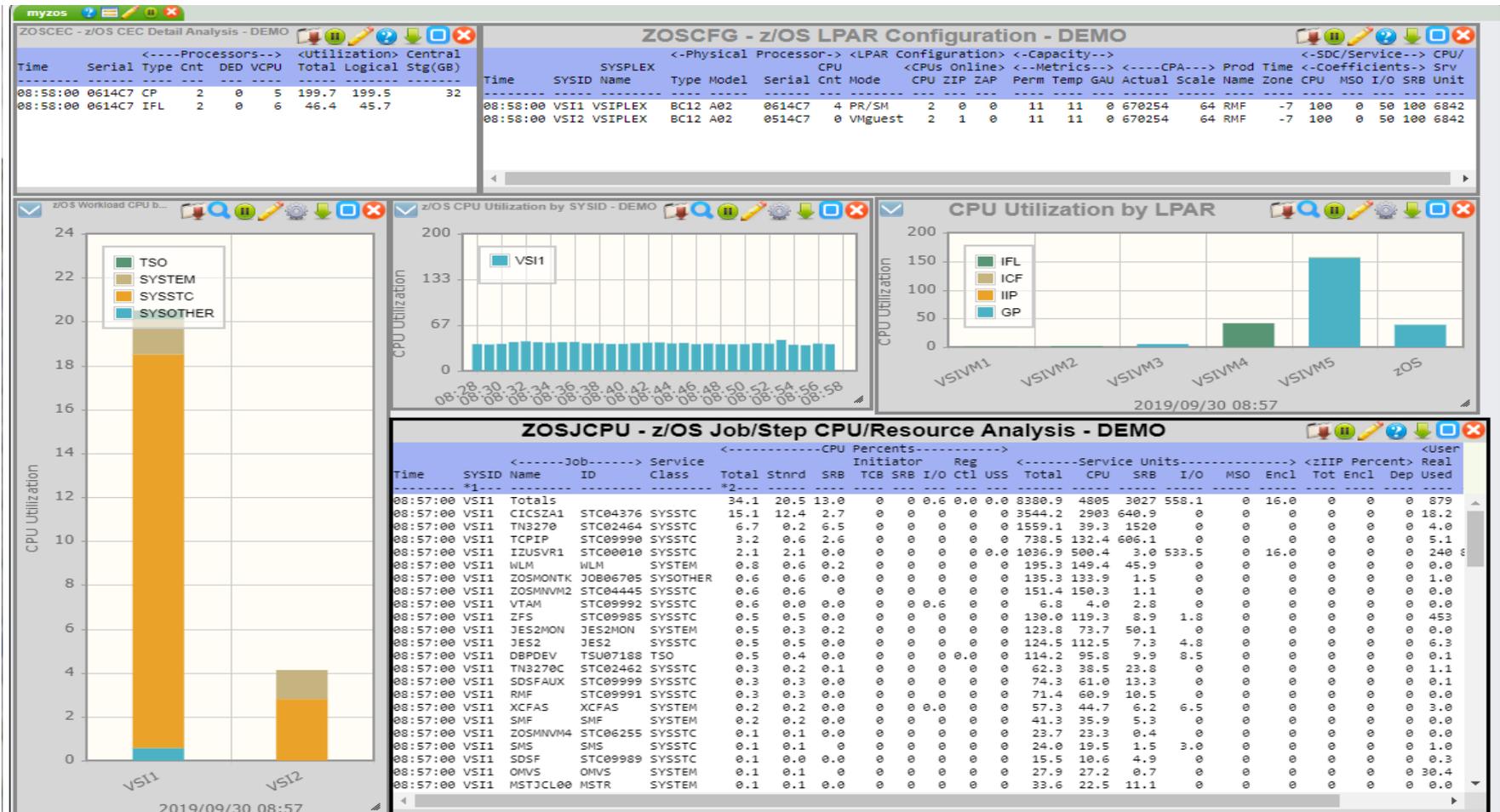
- Standard SNMP collection
- Data added to PDB
- Now accepts SMF Records
- Now accepts DMF records
- Now accepts Collectd

SOP: Standard Operating Procedure



zOSMON fully integrated

Instant z/os system, cpu, jobs, configuration. (Tailorable)



zOSMON fully integrated

Instant z/OS Graphs. (Tailorable)

<http://demo.velocitysoftware.com/zview/zview.cgi?view=zosgraph&heading=no&menu=no>



What can we do, and at what cost?

SMF 70 supported

- ZOSCFG - configuration
- ZOSCPU – cpu utilizations
- ZOSLPRS – lpar summary
- ZOSLPAR – lpar by cpu
- ZOSCEC – cec analysis
- ZOSSTR – system storage

SMF 30

- ZOSJCFG – job configuration
- ZOSJCPU – job/step cpu
- ZOSJDSD – job/step dasd I/O
- ZOSJWKLD – service class analysis
- ZOSJUSS – job/step Unix System Services Analysis
- ZOSJSTR – job/step storage analysis

What can we do, and at what cost?

SMF 110 supported

- ZOSCIX1 – CICS High Level Analysis
- ZOSCIX2 – CICS Region Analysis
- ZOSCIX4 - CICS Transaction ID Analysis

But at what cost?

Our Configuration

Two z/OS systems, one in LPAR, one guest...
BC12 A02 rated 11 MSU

```
Report: ZOSCFG          z/OS LPAR Configuration Report
Monitor initialized: 11/04/19 at 01:00:00 on BC12 serial 06
-----
SYSID  SYSPLEX  <-Physical Processor->  <LPAR Configuration>
      Name    Type Model   Serial CPU   Mode  <CPUs Online>
                        Cnt                        CPU ZIP ZAP
-----
01:15:00
VSI1  VSIPLEX   BC12  A02   0614C7   4   PR/SM     2   0   0
VSI2  VSIPLEX   BC12  A02   0514C7   0   VMGuest  2   1   0
```

*** MSUs are used for software pricing only; they are not a capacity metric.

Feeding three different data collectors (vm2, vm4, vmtk)... Capture ratio?

Report: ZOSJCPU z/OS Job/Step CPU/Resource Report
 Monitor initialized: 11/04/19 at 01:00:00 on BC12 serial 0614C

```
-----
```

SYSID <---Job----->		<-----CPU Percents----->							
Name	JobID	Total	STD	SRB	TCB	SRB	I/O	Regn Cntrl	USS
01:15:00									
VSII									
Totals		90.9	80.0	10.3	0.0	0	0.6	0.0	0.1
ANTAS000	ANTAS000	0.0	0.0	0.0	0	0	0	0	0
CICSJZ1	STC09632	21.5	19.6	2.0	0	0	0	0	0
EXMATGRP	JOB01605	27.0	27.0	0.0	0	0	0	0	0
RACF	RACF	0.0	0.0	0.0	0	0	0	0	0
RMF	STC09991	0.3	0.3	0.0	0	0	0	0	0
SMF	SMF	0.2	0.1	0.0	0	0	0	0	0
SMFDMPLS	JOB08464	41.1	40.9	0.2	0	0	0.1	0	0
SMS	SMS	0.1	0.1	0.0	0	0	0.0	0	0
SMSPDSE	System	0.0	0.0	0.0	0	0	0	0	0
SYSLOGD	STC09988	0.0	0.0	0.0	0	0	0	0	0
TCPIP	STC09990	2.7	0.5	2.2	0	0	0	0	0.0
TN3270	STC02464	5.0	0.1	4.8	0	0	0	0	0
TN3270C	STC02462	0.2	0.1	0.1	0	0	0	0	0
VLF	VLF	0.0	0.0	0.0	0	0	0	0	0
VMCF	VMCF	0.0	0.0	0	0	0	0	0	0
VTAM	STC09992	0.5	0.0	0.0	0	0	0.5	0	0
WLM	WLM	1.3	1.0	0.2	0	0	0	0	0
XCFAS	XCFAS	0.3	0.2	0.0	0	0	0.0	0	0
ZFS	STC09985	0.6	0.5	0.0	0	0	0.0	0	0
ZOSMVM2	STC00912	0.6	0.6	0.0	0	0	0	0.0	0
ZOSMVM4	STC08192	0.1	0.1	0.0	0	0	0	0.0	0
ZOSMONTK	JOB09418	0.5	0.5	0.0	0	0	0	0	0

Feeding three different data collectors (vm2, vm4, vmtk)...

Report: ZOSJCPU z/O Velocity Software Corporat
Monitor initialized: 11/7

```
-----  
SYSID <---Job-----> <-----Service Units----->  
      Name      JobID      <-----Per Second----->  
              Tot  CPU  SRB  IO  MSO Enclv  
-----  
01:15:00  
VSII  
Totals                22K  19K 2414  704    0  16.6  
ANTAS000 ANTAS000    0.9  0.4  0.5    0    0    0  
CICSJZ1 STC09632  5038 4576  463    0    0    0  
EXMATGRP JOB01605  6312 6310  0.8  0.9    0    0  
RACF      RACF      2.0  0.9  1.1    0    0    0  
RMF      STC09991  70.0 59.3 10.7    0    0    0  
SMF      SMF      39.4 34.0  5.3    0    0    0  
SMFDMPLS JOB08464  9739 9553 42.5  143    0    0  
SMS      SMS      24.3 19.7  1.7  2.9    0    0  
SMSPDSE  System    7.1  5.3  7.1    0    0    0  
SYSLOGD  STC09988   4.4  2.4  2.0    0    0    0  
TCPIP    STC09990   631  117  514    0    0    0  
TN3270   STC02464  1160 31.8 1128    0    0    0  
TN3270C  STC02462  53.6 31.1 22.5    0    0    0  
VLF      VLF      1.3  0.8  0.6    0    0    0  
VTAM     STC09992   6.9  4.0  2.8    0    0    0  
WLM      WLM      293  246 47.7    0    0    0  
XCFAS    XCFAS    63.7 49.5  7.8  6.4    0    0  
ZFS      STC09985   140  126 11.6  2.0    0    0  
ZOSMVM2 STC00912   139  137  1.2    0    0    0  
ZOSMVM4 STC08192  23.3 22.7  0.7    0    0    0  
ZOSMONTK JOB09418   122  121  1.5    0    0    0
```


CICS by Region

By minute, real time, wrapped up at night to 15 minute

Report: ZOSCIX2 z/OS Region Transaction Analysis
 Monitor initialized: 09/30/19 at 00:00:00 on BC12 serial 0514C7

Time/ SYSID/ Name/ Time	Transacton Type Count	<----Response Total Resp	Time (Seconds)----> Susp Time	Disp Time	CPU Time	DISP Wait	ZIP CPU	CPU Secs

05:15:00								
VSI1 CICSZA1	90 F S	100.0	6509K	0	0	274.9	0	0
	121 T S	0.183	11977	0	0	1.714	0	0
	37013 T TO	0.007	246.8	0	0	0	0	0
	CICSZA2	1 D S	1887	124M	0	0	26.62	0
	139 F S	68.63	4498K	0	0	52.16	0	0
	4 T S	0.196	12735	0	0	1.714	0	0
ZV61 CICSZP1	10 F S	1800	1787	12.81	1.131	0.371	0	11.3
	1 T S	0.002	0.000	0.002	0.001	0	0	0.0
	7328 T TO	0.053	0.033	0.020	0.003	0	0	21.3

05:30:00								
VSI1 CICSZA1	1 D S	1887	124M	0	0	7091	0	0
	90 F S	93.34	6076K	0	0	242.6	0	0
	125 T S	0.205	13382	0	0	1.722	0	0
	37312 T TO	0.006	190.5	0	0	0	0	0
	CICSZA2	127 F S	69.44	4551K	0	0	57.48	0
	1 T S	0.262	17060	0	0	1.588	0	0
ZV61 CICSZP1	1 F S	1556	1556	0.000	0.000	0.000	0	0.0
	9428 T TO	0.012	0.004	0.008	0.003	0	0	26.7

CICS by transaction id

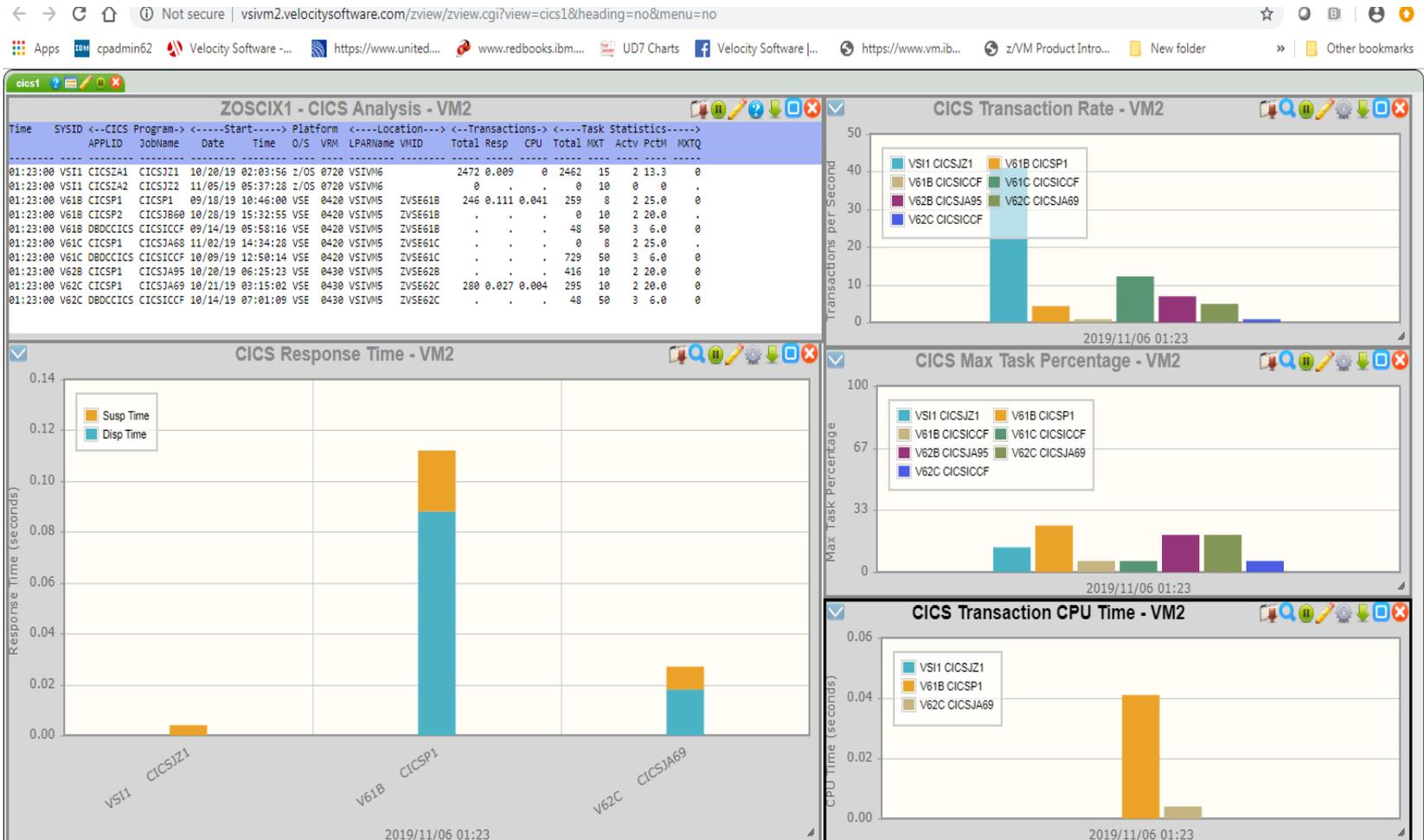
Transaction data, waits by tran id

Report: ZOSCIX4 z/OS CICS Transaction ID Analysis Velocity So
 Monitor initialized: 09/30/19 at 00:00:00 on BC12 serial 0514C7

Time/ SYSID	Transaction ID	Count	Type R T	Total Resp	Susp Time	Disp Time	CPU Time	DISP Wait	ZIP CPU	total Secs	Term	Jrn	Str
05:15:00	VSII												
	CICSZA1	9	F TO	100.0	6554K	0	0	0	0	0	0	0	0
		9	F TO	100.0	6554K	0	0	0	0	0	0	0	0
		9	F TO	100.0	6554K	0	0	0.176	0	0	0	0	0
		9	F TO	100.0	6554K	0	0	0	0	0	0	0	0
		18	F TO	100.0	6554K	0	0	0	0	0	0	0	0
		121	T TO	0.183	11977	0	0	1.714	0	0	0	0	0
		9	F TO	100.0	6102K	0	0	2745	0	0	0	0	0
		37013	T TO	0.007	246.8	0	0	0	0	0	0	0	0
	CICSZA2	14	F S	68.57	4494K	0	0	0	0	0	0	0	0
		13	F S	69.23	4537K	0	0	0	0	0	0	0	0
		14	F S	68.57	4494K	0	0	0.395	0	0	0	0	0
		14	F S	68.57	4494K	0	0	0	0	0	0	0	0
		1	D S	1887	124M	0	0	26.62	0	0	0	0	0
		28	F S	68.57	4494K	0	0	0	0	0	0	0	0
		4	T S	0.196	12735	0	0	1.714	0	0	0	0	0
		14	F S	68.57	4493K	0	0	512.0	0	0	0	0	0
	ZV61												
	CICSP1	1	F TO	1800	1800	0	0	0	0	0	0	0	0
		1	T TO	0.002	0.000	0.002	0.001	0	0	0.0	0	0	0
		5	F TO	1800	1800	0.000	0.000	0.000	0	0.0	0	0	0
		1	F TO	1800	1672	128.1	11.31	3.713	0	11.3	0	0	0
		1	F TO	1800	1800	0	0	0	0	0	0	0	0
		7328	T TO	0.053	0.033	0.020	0.003	0	0	21.3	0	0	0

CICS analysis real time

<http://vsivm2.velocitysoftware.com/zview/zview.cgi?view=cics1&heading=no&menu=no>



Cost of supporting everything of one IFL?

Percents always percent of ONE box, one minute granularity

Screen: ESAUSP2 Velocity Software
1 of 3 User Percent Utilization

ESAMON 5.103 11/06 01:
CLASS * 28

Time	UserID /Class	<--Processor-->			<-----Main Storage-(MB)----->					
		<-use Total	CPU% Virt	T:V Rat	<Resident-> Total	Lock -ed	<----WSSize-----> Total	Actv	Avg	
01:02:00	System:	1.89	1.62	1.2	421.2	243.6	5.01	415.7	238.3	3.4
	TheUsrs	0.75	0.73	1.0	100.0	67.8	0.11	99.9	67.7	2.7
	Velocity	0.53	0.48	1.1	76.6	72.2	0.01	76.3	71.9	3.8
	KeyUser	0.46	0.28	1.6	50.8	50.8	4.83	45.9	45.9	23.0
	Servers	0.09	0.09	1.1	79.3	28.2	0.03	79.2	28.2	2.6
	suse	0.06	0.04	1.6	114.4	24.6	0.04	114.3	24.6	1.9

zOSMON Room for Thought....

- **Processing requirements for 40 CICS transactions/sec**
 - 140,000 transactions per hour
 - z/OS: .6-.7% GP (BC12 A02) for collector
 - zVPS: <1% of one IFL for everything, including web servers.
- **z/OS processing time**
 - 24 hours records 30/70: 24 cpu seconds on one IFL
- **zOSMON Futures**
 - DB2 (101,102)
 - MQ
 - MFC (113)
 - What customers want
 - Please send SMF data

If you don't have z/VM

- Velocity Software will install and support it for you
- KVM? One shared IFL partition for z/VM (and less expensive)
- z/OS only? One shared GP partition sufficient
- Full cloud configuration – you never see z/VM (if you don't want)

z/VM ordered through your business partner

Velocity Software thanks you for having lunch with us

- **Please see zOSMON™ for your self**
- <http://demo.velocitysoftware.com/zview/zview.cgi?view=myzos&heading=no&menu=no>