Overview of CA's New Linux on System z Management Offerings and z/VM Products Update

August 9, 2011 - SHARE Session 10048

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CA Technologies

Abstract

In this session, we will review the Linux on System z management suite that was announced earlier in the week and will show how these products can be used in conjunction with CA's existing VM solutions to provide holistic monitoring, management, and troubleshooting of your Linux on System z and z/VM environments. We will also cover enhancements to the CA VM product suite that were recently made GA and will share CA's roadmap for longer-term features and enhancements.

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Agenda

- Review of new CA offerings for Linux on System z Management
- CA Technologies Advantage
- Practical Examples: Using new offerings with CA z/VM Product Suite
- CA z/VM Product Suite Enhancements
- CA z/VM Product line and Linux on System z Management Roadmap

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Changing the way the mainframe is managed forever!

Mainframe 2.0

1. THE MARKET

Mainframe Platform Drivers

- Business Growth
- Hardware Evolution
- Mainframe Virtues

2. THE CHALLENGES

Control Costs	Sustain Critical Skills	Increase Agility
• Do More… • "…with less" • "…with nothing"	• Build next generation team dynamically • On ramp for next gen is long and complex	• Provision services faster • Multiplatform data center • Solve critical issues

3. THE STRATEGY

Maximize Value	Simplify Management	Practical Innovation

Best in Class Quality, Support, and Customer Experience

4. THE PROGRAMS

Promises Made		Promises Kept
Maximize Value	1	Customer Engagement Technology Exploitation
Simplify Management	2	Mainframe Software Mgmt Mainframe Stack
Practical Innovation	3	Integration, Productivity, and Insight

Linux on System z strategy overview

- ***Simplify the management and security of Linux on System z with a management suite***
  - Deliver a management and security suite for Linux on System z that can be managed by both mainframe and distributed staffs
  - Empower customers with the ability to consolidate distributed Linux servers onto Linux on System z
- ***Make Linux on System z a cost-effective choice for customers***
  - deliver a full lifecycle management solution for Linux on System z
- ***Agility delivered***
  - allow clients to quickly deliver capacity on demand with Linux on System z

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CA Solutions for Linux on System z Announcement Overview

- **New product enhancements and strategic partnerships will help you reduce costs, improve performance and more efficiently manage Linux on System z**
  - ***New releases of CA VM:Manager Suite for Linux on System z*** *provide various feature enhancements including new support for managing tapes for Linux on System z, and others that help customers install, deploy, and service their CA z/VM products more effectively and quickly*
  - ***Velocity Software zVPS Performance Suite*** *complements CA solutions with real-time access to detail data from z/VM and Linux on System z platforms for optimized performance, capacity planning and cost chargeback*
  - ***INNOVATION Data Processing UPSTREAM for Linux on Z and UPSTREAM for z/OS UNIX*** *extend CA data protection capabilities with file level backup for Linux on System z and z/OS UNIX files*
  - ***CA Mainframe Connector for Linux on System z*** *allows CA z/OS-based automation products to receive event information from Linux on System z environments*
- **Combined, these solutions will help remove barriers and reduce time, cost and risk of consolidating workloads to Linux on System z**

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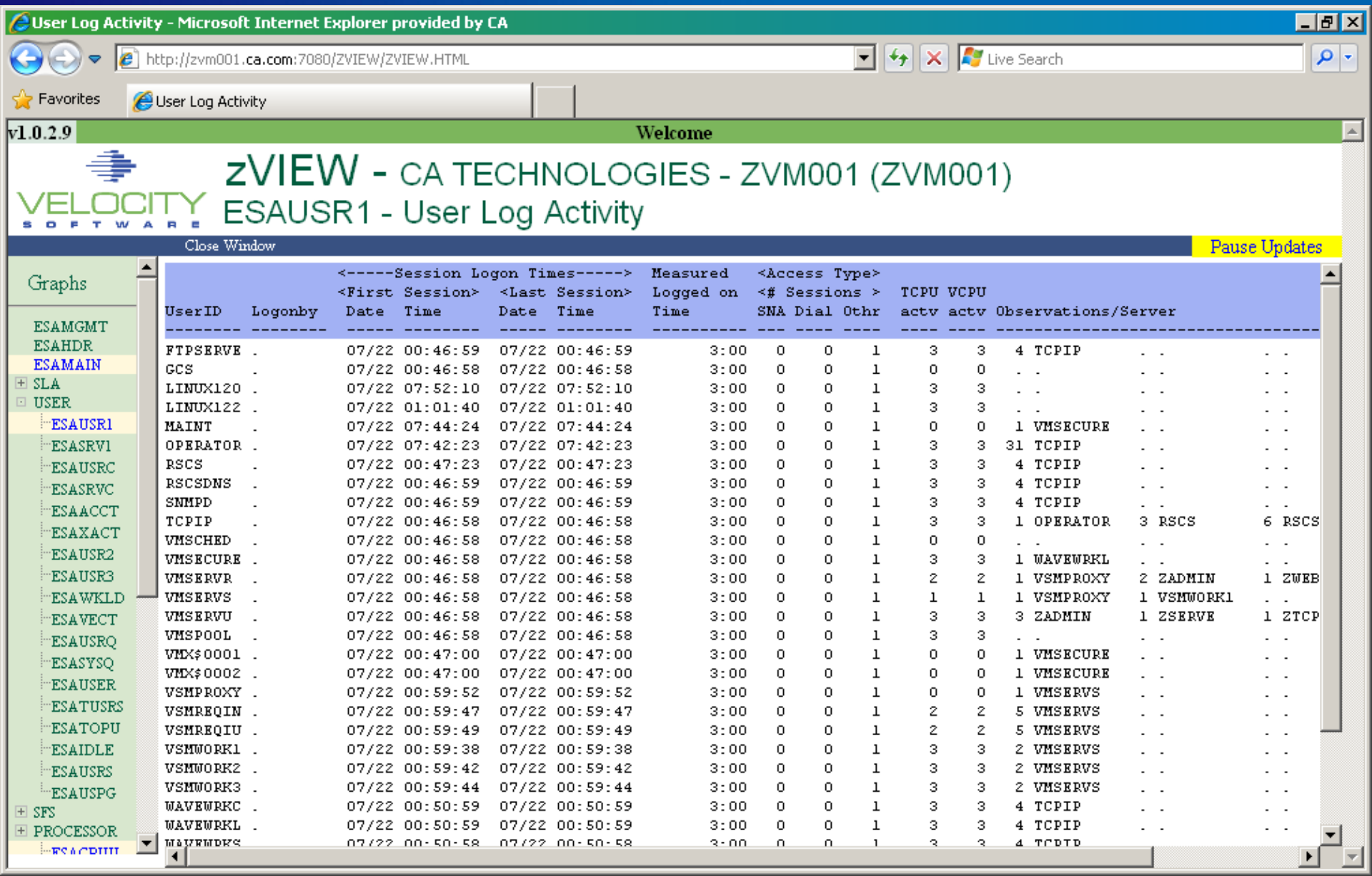
Velocity Software zVPS™ Performance Management Suite



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GCS	.	07/22	00:46:58	07/22	00:46:58	3:00	0	0	1	0	0	. .		. .	. .		
LINUX120	.	07/22	07:52:10	07/22	07:52:10	3:00	0	0	1	3	3	. .		. .	. .		
LINUX122	.	07/22	01:01:40	07/22	01:01:40	3:00	0	0	1	3	3	. .		. .	. .		
MAINT	.	07/22	07:44:24	07/22	07:44:24	3:00	0	0	1	0	0	1	VMSECURE	. .	. .		
OPERATOR	.	07/22	07:42:23	07/22	07:42:23	3:00	0	0	1	3	3	31	TCPIP	. .	. .		
RSCS	.	07/22	00:47:23	07/22	00:47:23	3:00	0	0	1	3	3	4	TCPIP	. .	. .		
RSCSDNS	.	07/22	00:46:59	07/22	00:46:59	3:00	0	0	1	3	3	4	TCPIP	. .	. .		
SNMPD	.	07/22	00:46:59	07/22	00:46:59	3:00	0	0	1	3	3	4	TCPIP	. .	. .		
TCPIP	.	07/22	00:46:58	07/22	00:46:58	3:00	0	0	1	3	3	1	OPERATOR	3	RSCS	6	RSCS
VMSCHED	.	07/22	00:46:58	07/22	00:46:58	3:00	0	0	1	0	0	. .		. .	. .		
VMSECURE	.	07/22	00:46:58	07/22	00:46:58	3:00	0	0	1	3	3	1	WAVEWRKL	. .	. .		
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VMSERVS	.	07/22	00:46:58	07/22	00:46:58	3:00	0	0	1	1	1	1	VSMPROXY	1	VSMWORK1	.	.
VMSERVU	.	07/22	00:46:58	07/22	00:46:58	3:00	0	0	1	3	3	3	ZADMIN	1	ZSERVE	1	ZTCP
VMSPOOL	.	07/22	00:46:58	07/22	00:46:58	3:00	0	0	1	3	3	. .		. .	. .		
VMX$0001	.	07/22	00:47:00	07/22	00:47:00	3:00	0	0	1	0	0	1	VMSECURE	. .	. .		
VMX$0002	.	07/22	00:47:00	07/22	00:47:00	3:00	0	0	1	0	0	1	VMSECURE	. .	. .		
VSMPROXY	.	07/22	00:59:52	07/22	00:59:52	3:00	0	0	1	0	0	1	VMSERVS	. .	. .		
VSMREQIN	.	07/22	00:59:47	07/22	00:59:47	3:00	0	0	1	2	2	5	VMSERVS	. .	. .		
VSMREQIU	.	07/22	00:59:49	07/22	00:59:49	3:00	0	0	1	2	2	5	VMSERVS	. .	. .		
VSMWORK1	.	07/22	00:59:38	07/22	00:59:38	3:00	0	0	1	3	3	2	VMSERVS	. .	. .		
VSMWORK2	.	07/22	00:59:42	07/22	00:59:42	3:00	0	0	1	3	3	2	VMSERVS	. .	. .		
VSMWORK3	.	07/22	00:59:44	07/22	00:59:44	3:00	0	0	1	3	3	2	VMSERVS	. .	. .		
WAVEWRKC	.	07/22	00:50:59	07/22	00:50:59	3:00	0	0	1	3	3	4	TCPIP	. .	. .		
WAVEWRKL	.	07/22	00:50:59	07/22	00:50:59	3:00	0	0	1	3	3	4	TCPIP	. .	. .		
WAVEWRKS	.	07/22	00:50:58	07/22	00:50:58	3:00	0	0	1	3	3	4	TCPIP				

Velocity Software zVPS™ Performance Management Suite

Key Capabilities

— *Performance Analysis*

- Provides real-time metrics on all facets of performance for all servers including z/VM, Linux on System z and distributed servers
- Enables immediate analysis of real-time problems

— *Capacity Planning*

- Provides trend data for projecting capacity requirements of future workloads
- Interfaces to popular enterprise capacity planning facilities such as CA MICS® Resource Management

— *Chargeback and Accounting*

- Delivers data needed for chargeback and accounting, with complete and accurate data for both Linux on System z applications and z/VM virtual machines

— *Operational Alerts*

- Helps ensure performance and capacity issues are immediately detected and reported.
- Provides alerts via a 3270 interface, web-based browser, and via SNMP alerts to integrate into your management console

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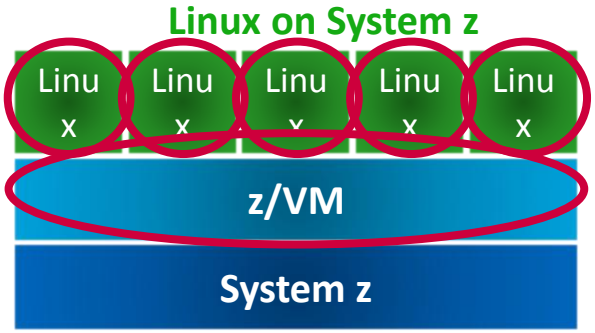
Velocity Software zVPS™ Performance Management Suite

The Differentiators

— ***Comprehensive Data Collection***

- z/VM Subsystems (processor, storage, I/O, paging)
- z/VM Guest resources
- Linux on System z – disk, storage, processor
- Networked servers (Linux, Unix, Windows)
- Linux applications



— ***High data Capture Rate***

- Critical for accurate analysis, reporting, and accounting

— ***Uses existing Linux on System z SNMPD process for data capture***

- Eliminates overhead and maintenance of new performance agent

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Velocity Software zVPS™ Performance Management Suite

Solution Components

zMON™	Real-time graphical display of up-to-the-minute performance information
zMAP™	Historical performance reporting provides in-depth post-analysis and capacity planning
zTCP™	Network performance monitor for distributed servers, Linux networks and z/VM
zPRO™ Portal	Web-based interface for z/VM and Linux on System z performance management. Also provides zVPS™ product administration
zWRITE™	Data collection facility that reduces monitor data without losing information relevant to proper performance analysis
zVWS™	High-speed web server for optimum z/VM performance and reduced CPU overhead

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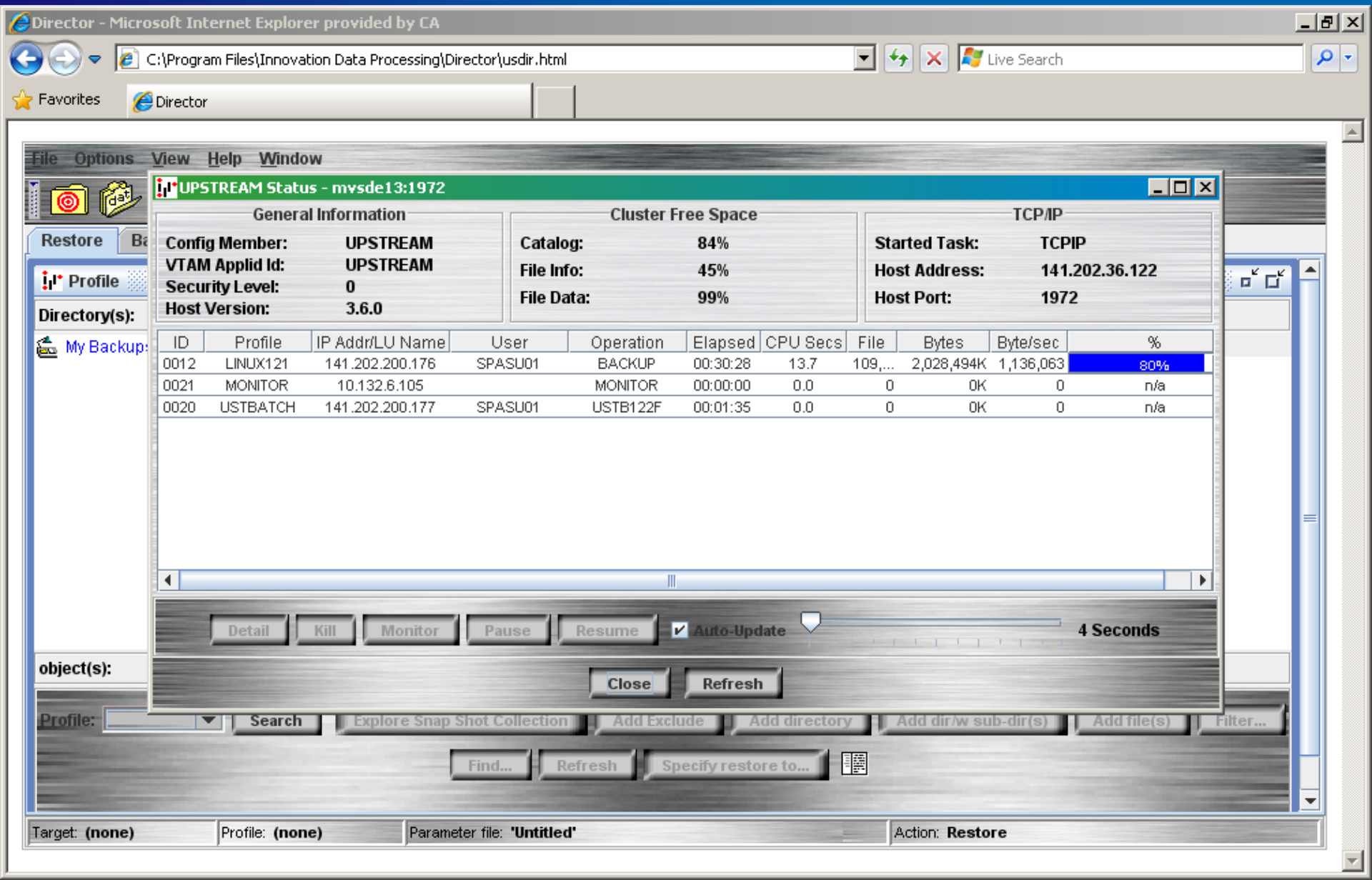
UPSTREAM® for Linux on Z and UPSTREAM® for z/OS UNIX



UPSTREAM® for Linux on Z and UPSTREAM® for z/OS UNIX

- Integrated backup/restore solution suite for Linux on System z, z/OS USS and other distributed environments
- Capabilities are provided at the file level directly to z/OS mainframe tape or DASD
- Uses the z/OS tape management, security and scheduling systems, to allow multiple simultaneous backups and restore operations
- Can automate and integrate using existing CA management products (i.e., CA7, CA1,OPS/MVS, SYSVIEW)
- Combines the backup of critical open systems data into existing Disaster Recovery plans and processes

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UPSTREAM® for Linux on System z and UPSTREAM® for z/OS UNIX

Solution Components

UPSTREAM® for Linux on Z	Using the z/OS infrastructure, provides backup and recovery capabilities for Linux on System z, Windows , and other distributed environment. Includes : **UPSTREAM z/OS** - Host Data Storage Server **UPSTREAM Client** -Server side backup "agent" **UPSTREAM Director –** Java-based Application portal
UPSTREAM® for z/OS UNIX	File level backup and recovery for ZFS/HFS files under Unix System Services for z/OS

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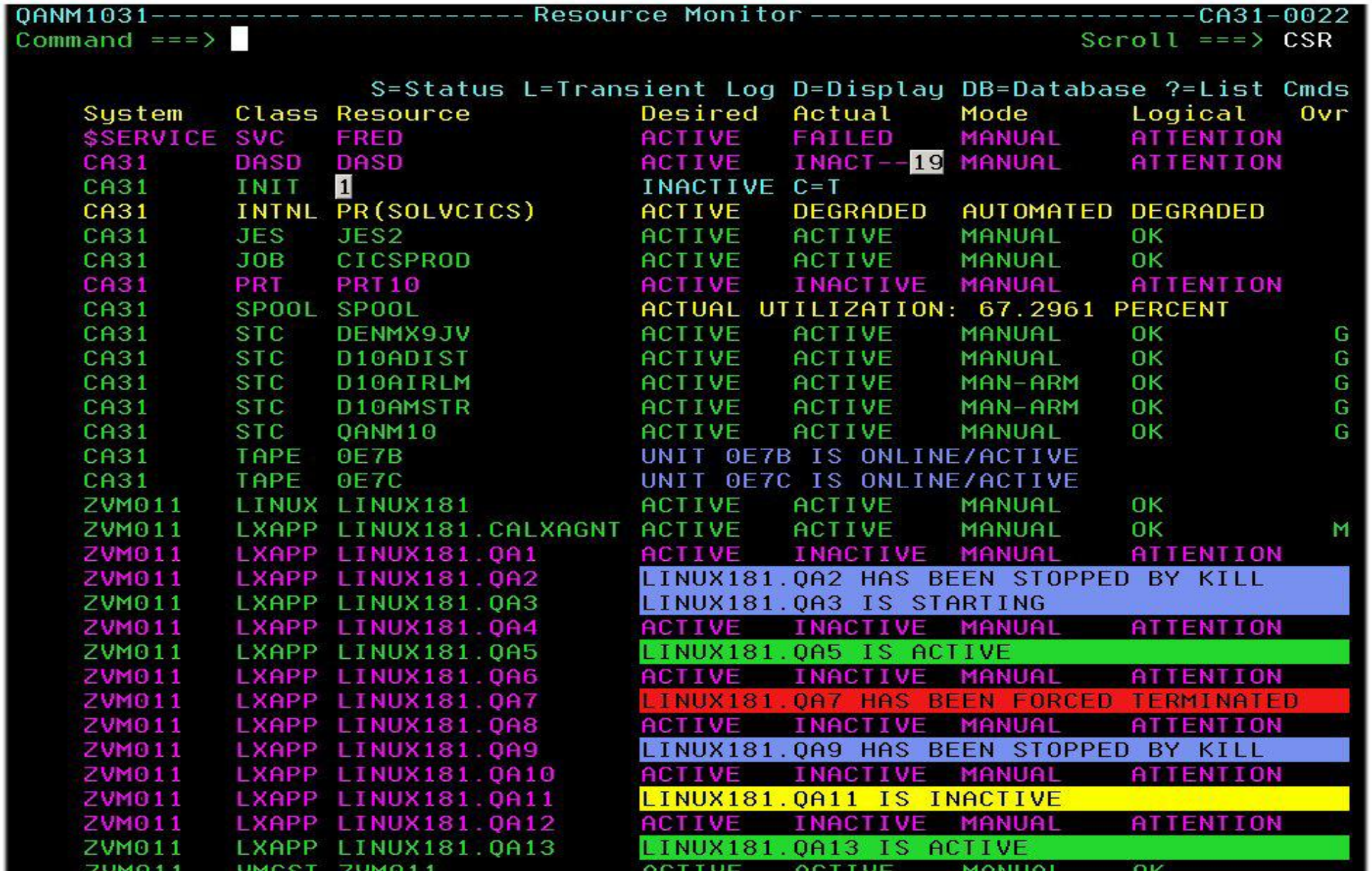
CA Mainframe Connector for Linux on System z



CA Mainframe Connector for Linux on System z

- ***Automate Management of Linux on System z with CA SOLVE:Operations® Automation***
- ***Connector for Linux on System z connects a CA SOLVE:Operations Automation region with z/VM systems and their z/Linux guests via IP Connections***
  - z/Linux and z/VM unsolicited event traffic is normalized and merged with the z/OS console messages in CA SOLVE:Operations Automation
  - z/Linux and z/VM command-and-response functions are available and behave like a specialized z/OS system command
- ***Available with CA SOLVE:Operations® Automation R11.9***
- ***Planned availability with CA OPS/MVS® release targeted for mid-2012***

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CA Technologies Advantage

CA Technologies is an IT management software and solutions company

CA Technologies is executing a bold vision for the future, where IT resources are delivered with unprecedented levels of flexibility

- New offerings easily added to current CA Licensing
- Product support through existing CA Support processes
  - Licensing
  - Product Software, maintenance and Documentation access
  - Problem reporting
- CA commitment to maximize value through continued integration with other CA product offerings

Our products enable customers to **manage** and **secure** IT environments and **deliver more flexible IT services**

With CA Technologies, **IT powers business agility**

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Example 1: Server SWAP Space – Monitoring, Analysis and Resolution

Scenario – New server, LINUX120, provisioned for new application. Server SWAP performance hits critical level when application testing begins.

- ***zVPS™ Performance Suite***
  - Customized alerts implemented via zMON MONALERT file
  - ZALERT service machine running to process zMON alerts
- ***VM:Operator***
  - SECUSER Windows for each Linux on System z server
  - HOLDMSG table for specific zVPS Alerts
  - LOGTABLE and SYSTABLE – Routing customized alerts

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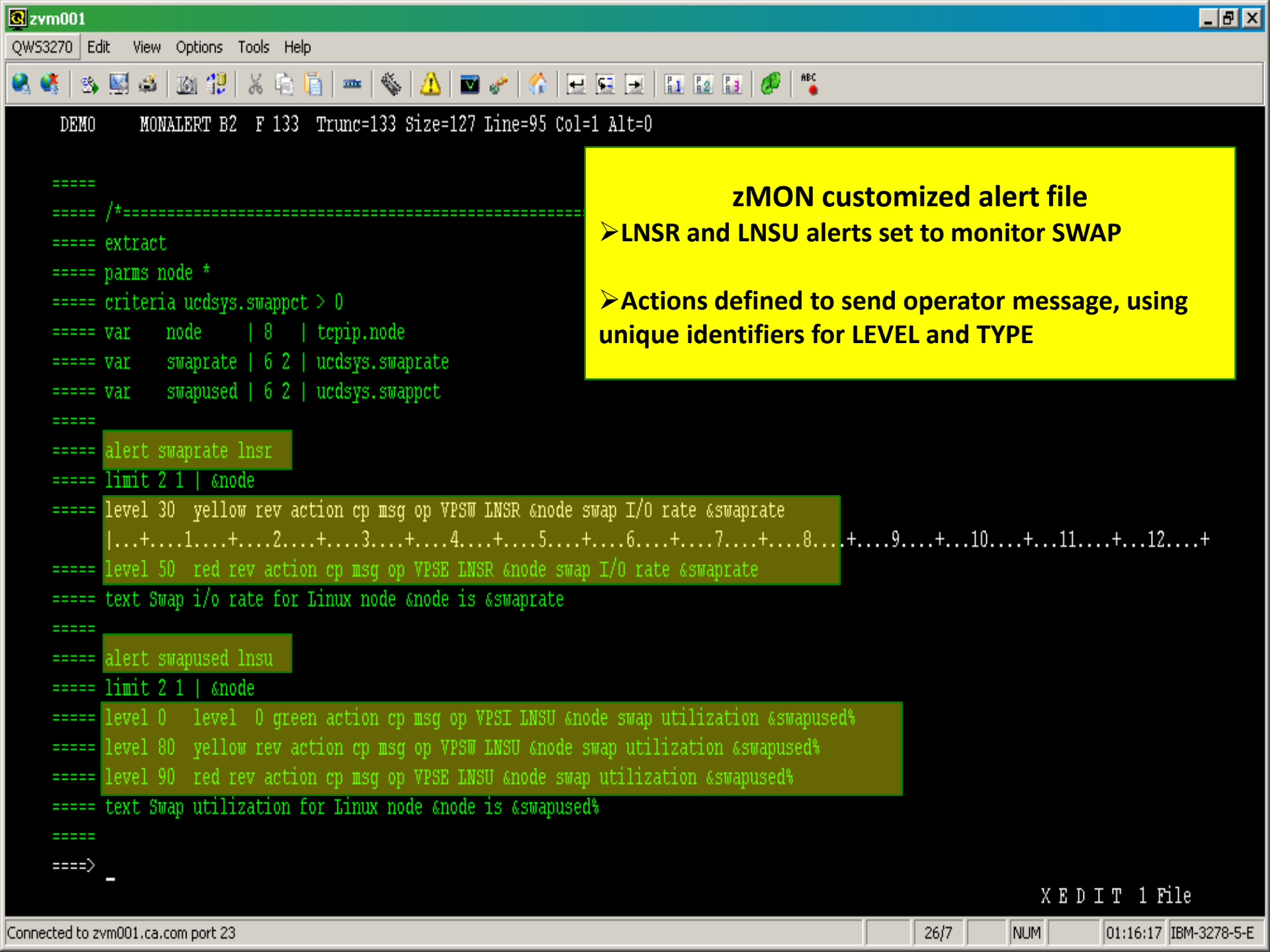
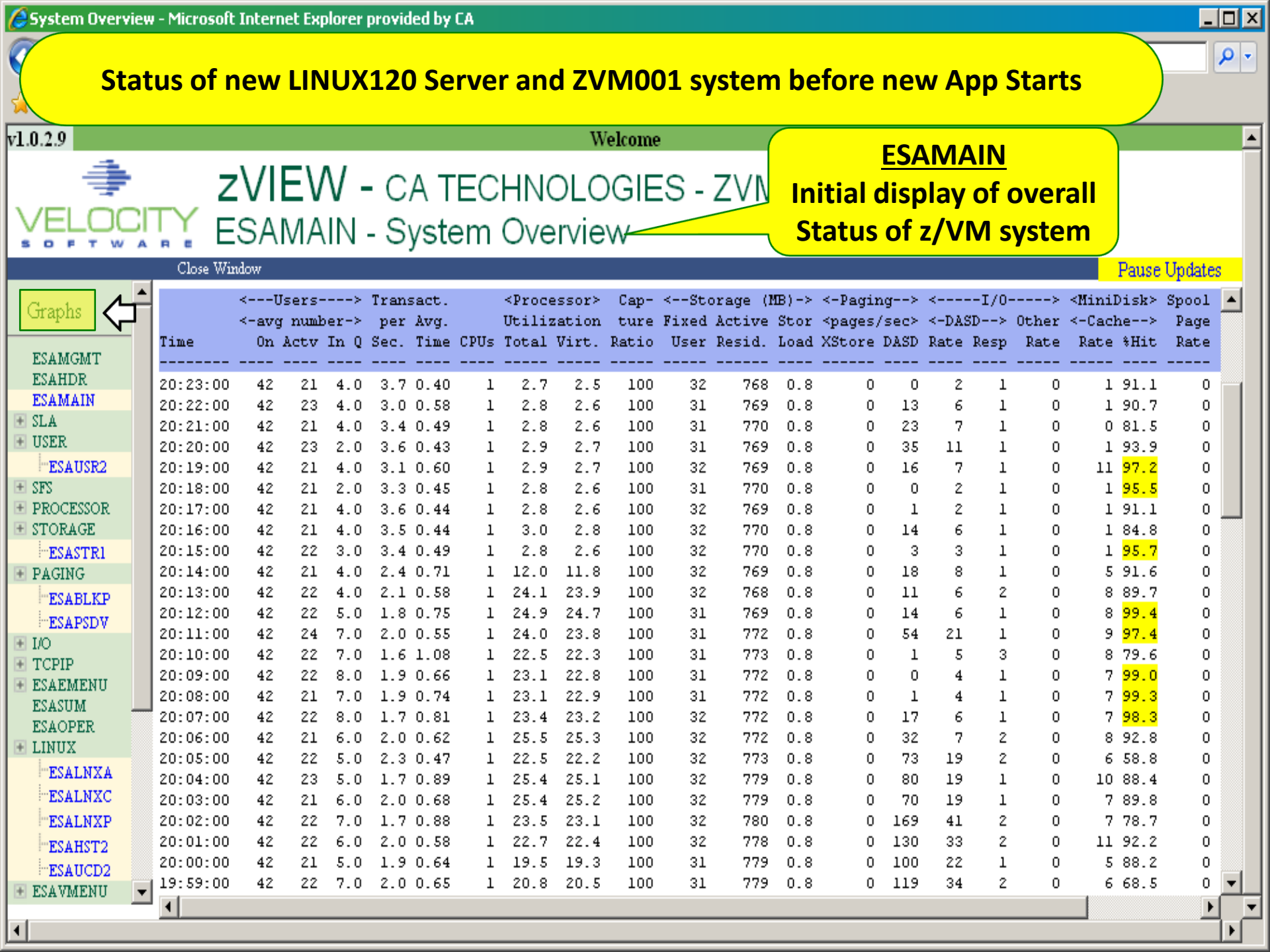


zMON customized alert file

- LNSR and LNSU alerts set to monitor SWAP
- Actions defined to send operator message, using unique identifiers for LEVEL and TYPE



Time	<---Users----> <-avg number-> On	Actv	In Q	Transact. per Sec.	Avg. Time	CPUs	<Processor> Utilization Total	Virt.	Cap- ture Ratio	<--Storage (MB)-> Fixed User	Active Resid.	Stor Load	<-Paging--> <pages/sec> XStore	DASD	<-----I/O-----> <-DASD--> Rate	Resp	Other Rate	<MiniDisk> <-Cache--> Rate	%Hit	Spool Page Rate
20:23:00	42	21	4.0	3.7	0.40	1	2.7	2.5	100	32	768	0.8	0	0	2	1	0	1	91.1	0
20:22:00	42	23	4.0	3.0	0.58	1	2.8	2.6	100	31	769	0.8	0	13	6	1	0	1	90.7	0
20:21:00	42	21	4.0	3.4	0.49	1	2.8	2.6	100	31	770	0.8	0	23	7	1	0	0	81.5	0
20:20:00	42	23	2.0	3.6	0.43	1	2.9	2.7	100	31	769	0.8	0	35	11	1	0	1	93.9	0
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20:18:00	42	21	2.0	3.3	0.45	1	2.8	2.6	100	31	770	0.8	0	0	2	1	0	1	95.5	0
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20:16:00	42	21	4.0	3.5	0.44	1	3.0	2.8	100	32	770	0.8	0	14	6	1	0	1	84.8	0
20:15:00	42	22	3.0	3.4	0.49	1	2.8	2.6	100	32	770	0.8	0	3	3	1	0	1	95.7	0
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20:11:00	42	24	7.0	2.0	0.55	1	24.0	23.8	100	31	772	0.8	0	54	21	1	0	9	97.4	0
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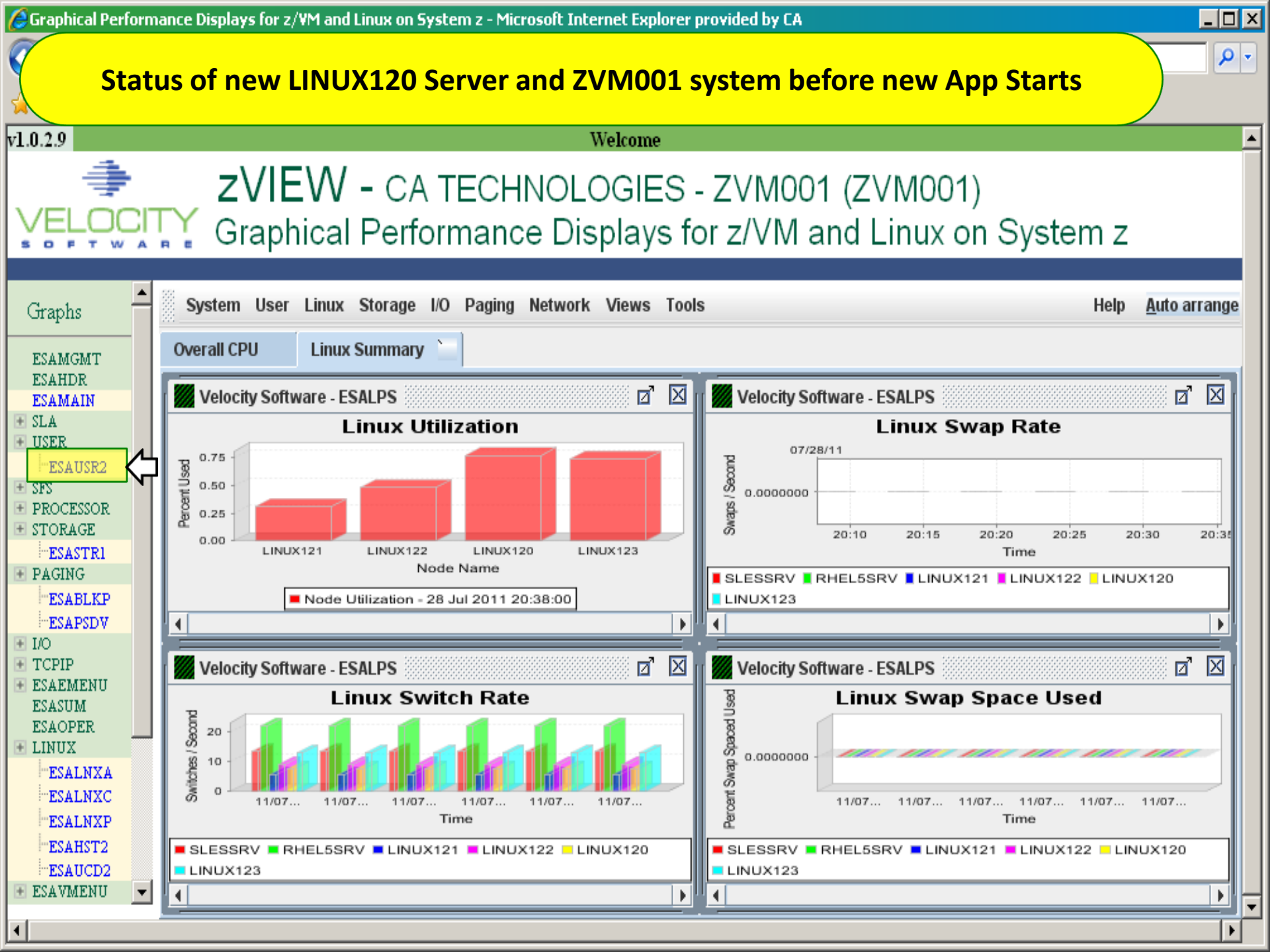
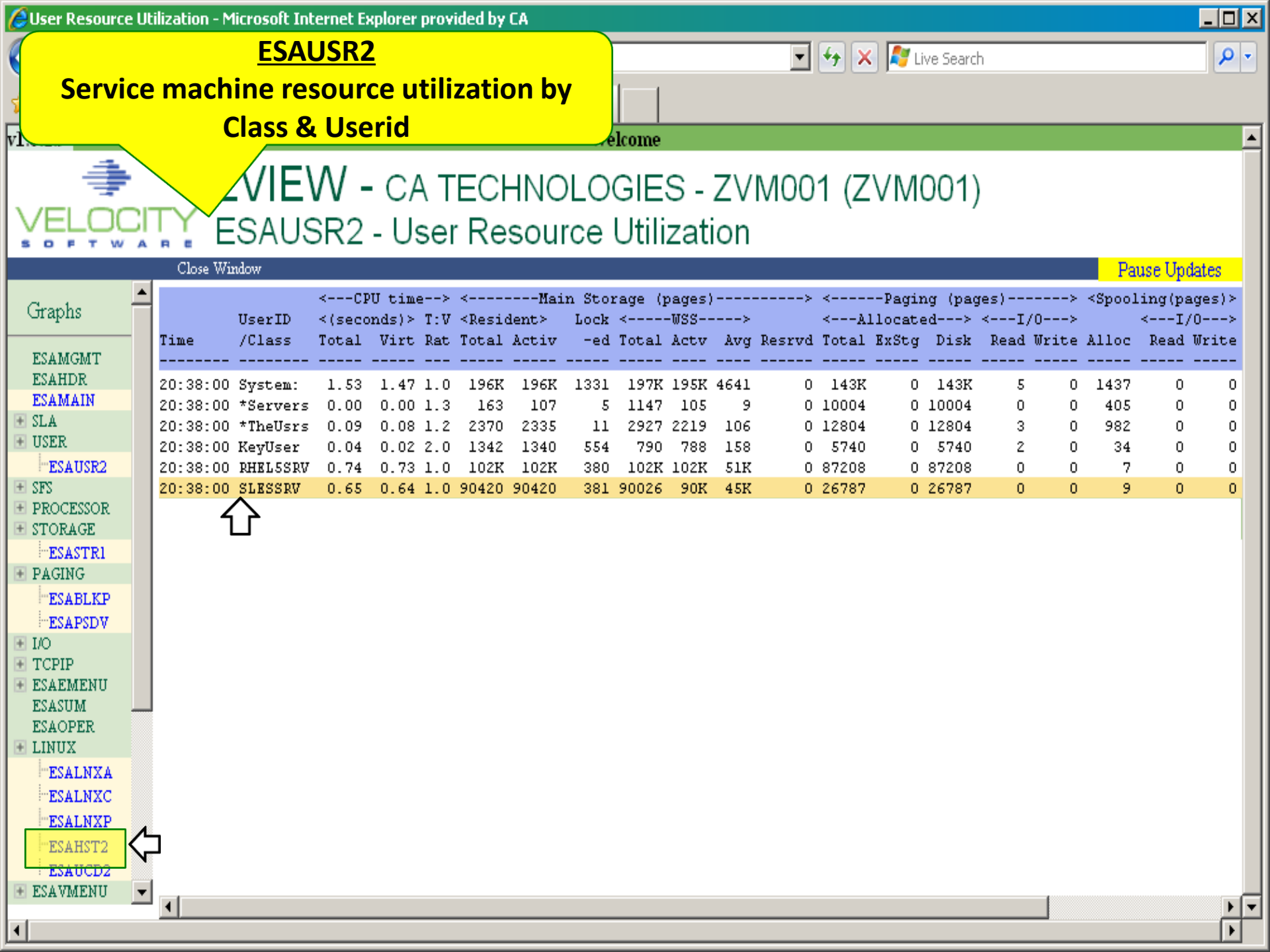
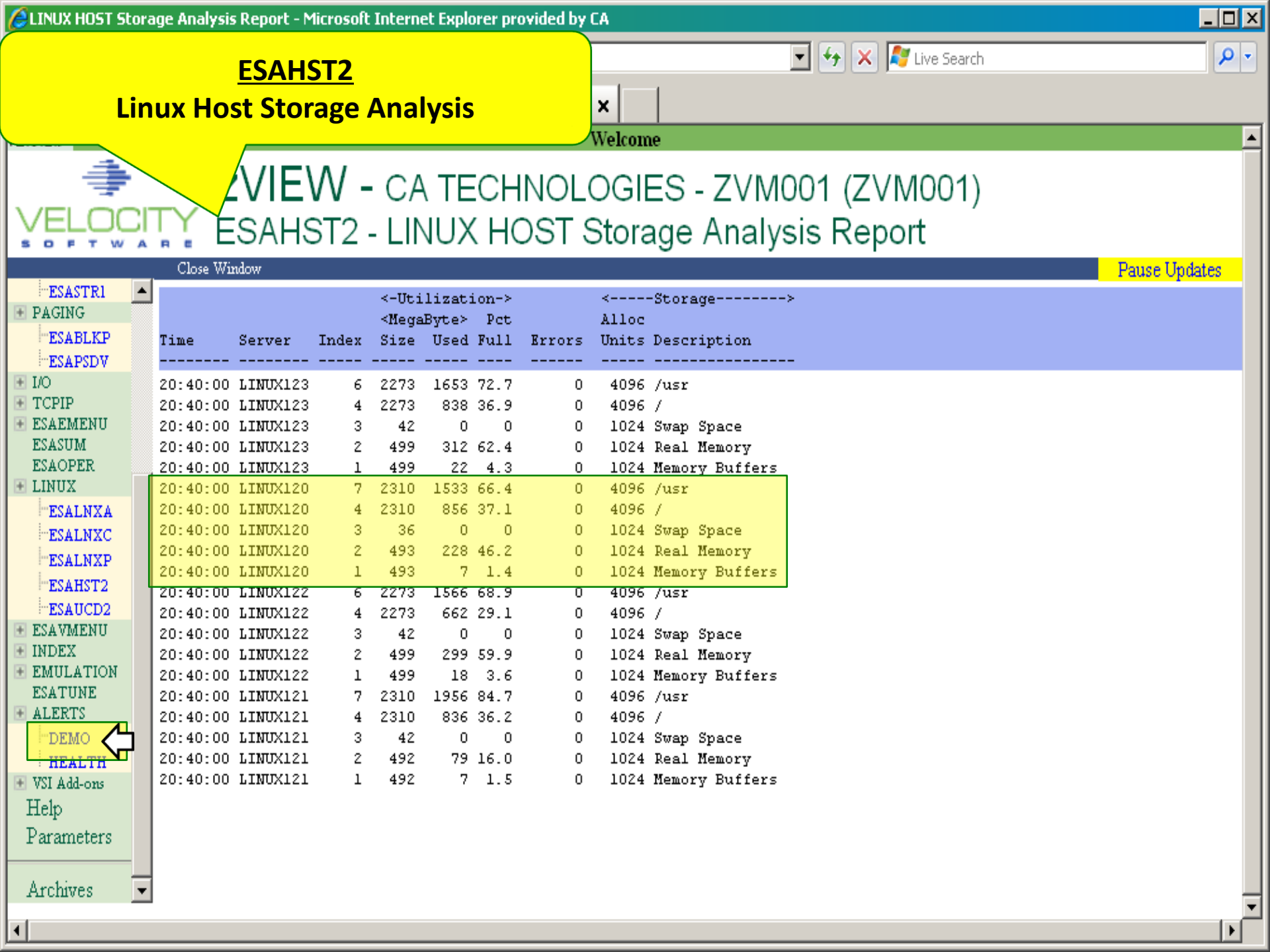
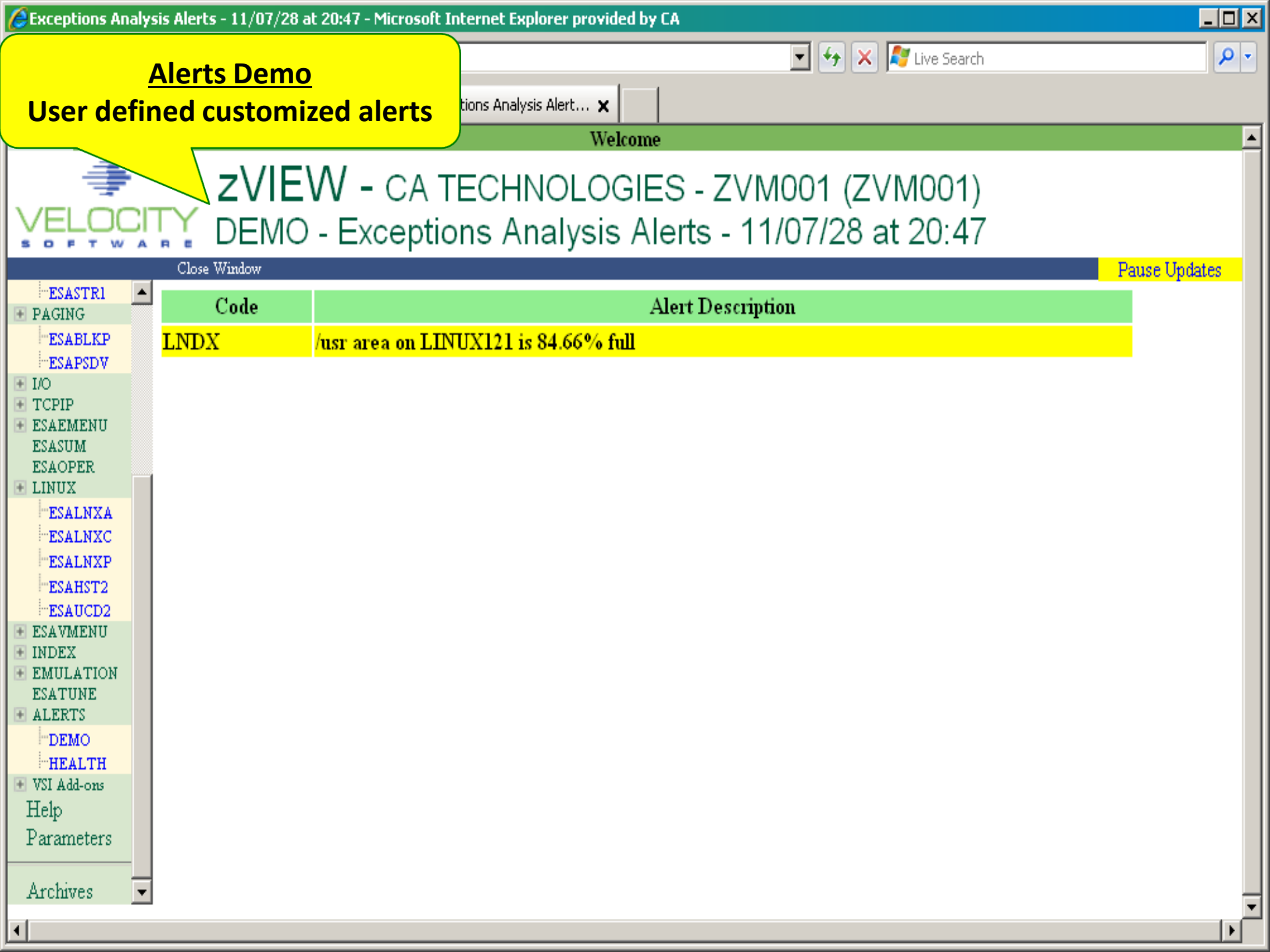
20:08:00	42	21	7.0	1.9	0.74	1	23.1	22.9	100	31	772	0.8	0	1	4	1	0	7	99.3	0
20:07:00	42	22	8.0	1.7	0.81	1	23.4	23.2	100	32	772	0.8	0	17	6	1	0	7	98.3	0
20:06:00	42	21	6.0	2.0	0.62	1	25.5	25.3	100	32	772	0.8	0	32	7	2	0	8	92.8	0
20:05:00	42	22	5.0	2.3	0.47	1	22.5	22.2	100	32	773	0.8	0	73	19	2	0	6	58.8	0
20:04:00	42	23	5.0	1.7	0.89	1	25.4	25.1	100	32	779	0.8	0	80	19	1	0	10	88.4	0
20:03:00	42	21	6.0	2.0	0.68	1	25.4	25.2	100	32	779	0.8	0	70	19	1	0	7	89.8	0
20:02:00	42	22	7.0	1.7	0.88	1	23.5	23.1	100	32	780	0.8	0	169	41	2	0	7	78.7	0
20:01:00	42	22	6.0	2.0	0.58	1	22.7	22.4	100	32	778	0.8	0	130	33	2	0	11	92.2	0
20:00:00	42	21	5.0	1.9	0.64	1	19.5	19.3	100	31	779	0.8	0	100	22	1	0	5	88.2	0
19:59:00	42	22	7.0	2.0	0.65	1	20.8	20.5	100	31	779	0.8	0	119	34	2	0	6	68.5	0

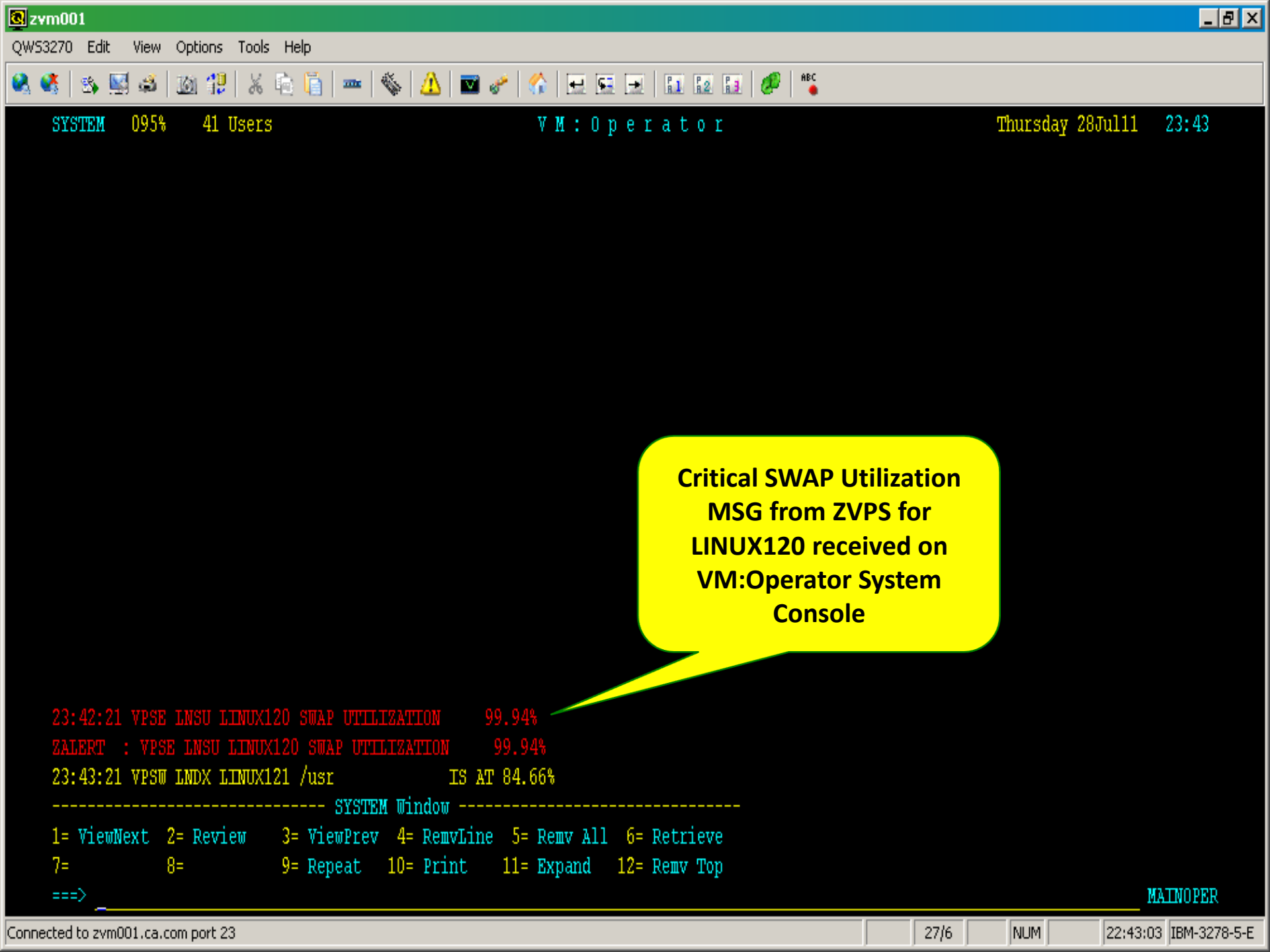

Graphical Performance Displays for z/VM and Linux on System z - Microsoft Internet Explorer provided by CA
Status of new LINUX120 Server and ZVM001 system before new App Starts
v1.0.2.9
Welcome
VELOCITY SOFTWARE
zVIEW - CA TECHNOLOGIES - ZVM001 (ZVM001)
Graphical Performance Displays for z/VM and Linux on System z
Graphs
ESAMGMT
ESAHDR
ESAMAIN
SLA
USER
ESAUSR2
SFS
PROCESSOR
STORAGE
ESASTR1
PAGING
ESABLKP
ESAPSDV
I/O
TCPIP
ESAEMENU
ESASUM
ESAOPER
LINUX
ESALNXA
ESALNXC
ESALNXP
ESAHST2
ESAUCD2
ESAVMENU
System User Linux Storage I/O Paging Network Views Tools
Help Auto arrange
Overall CPU
Linux Summary
Velocity Software - ESALPS
Linux Utilization
Percent Used
0.75
0.50
0.25
0.00
LINUX121 LINUX122 LINUX120 LINUX123
Node Name
Node Utilization - 28 Jul 2011 20:38:00
Velocity Software - ESALPS
Linux Swap Rate
07/28/11
Swaps / Second
0.0000000
20:10 20:15 20:20 20:25 20:30
Time
SLESSRV RHEL5SRV LINUX121 LINUX122 LINUX120
LINUX123
Velocity Software - ESALPS
Linux Switch Rate
Switches / Second
20
10
0
11/07...
Time
SLESSRV RHEL5SRV LINUX121 LINUX122 LINUX120
LINUX123
Velocity Software - ESALPS
Linux Swap Space Used
Percent Swap Spaced Used
0.0000000
11/07...
Time
SLESSRV RHEL5SRV LINUX121 LINUX122 LINUX120
LINUX123

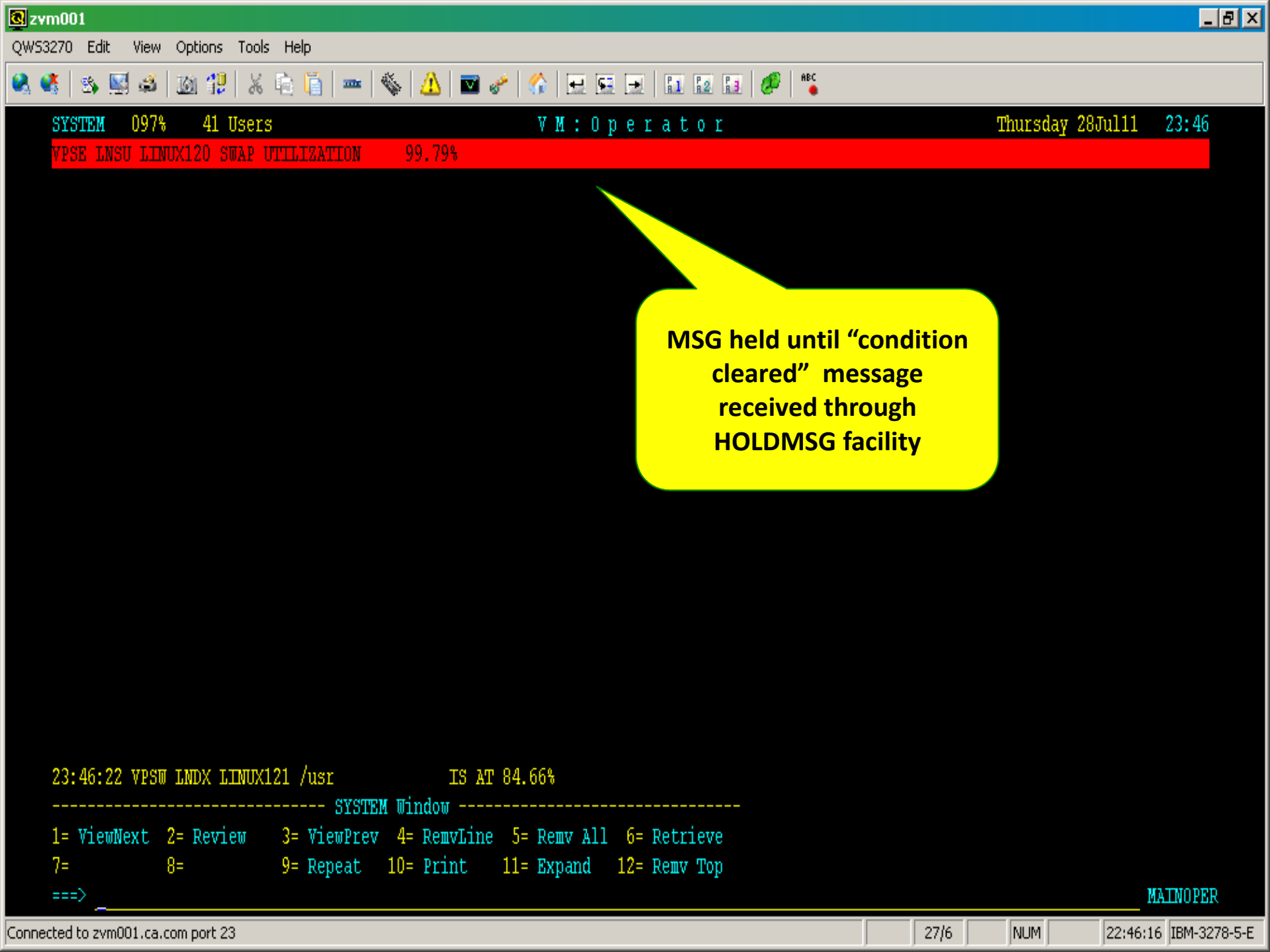


Time	UserID /Class	<---CPU time--> <(seconds)> Total	Virt	T:V Rat	<--------Main Storage (pages)----------> <Resident> Total	Activ	Lock -ed	<-----WSS-----> Total	Actv	Avg	Resrvd	<------Paging (pages)-------> <---Allocated---> Total	ExStg	<---I/O---> Disk	Read	Write	<Spooling(pages)> Alloc	<---I/O---> Read	Write
20:38:00	System:	1.53	1.47	1.0	196K	196K	1331	197K	195K	4641	0	143K	0	143K	5	0	1437	0	0
20:38:00	*Servers	0.00	0.00	1.3	163	107	5	1147	105	9	0	10004	0	10004	0	0	405	0	0
20:38:00	*TheUsrs	0.09	0.08	1.2	2370	2335	11	2927	2219	106	0	12804	0	12804	3	0	982	0	0
20:38:00	KeyUser	0.04	0.02	2.0	1342	1340	554	790	788	158	0	5740	0	5740	2	0	34	0	0
20:38:00	RHEL5SRV	0.74	0.73	1.0	102K	102K	380	102K	102K	51K	0	87208	0	87208	0	0	7	0	0
20:38:00	SLESSRV	0.65	0.64	1.0	90420	90420	381	90026	90K	45K	0	26787	0	26787	0	0	9	0	0

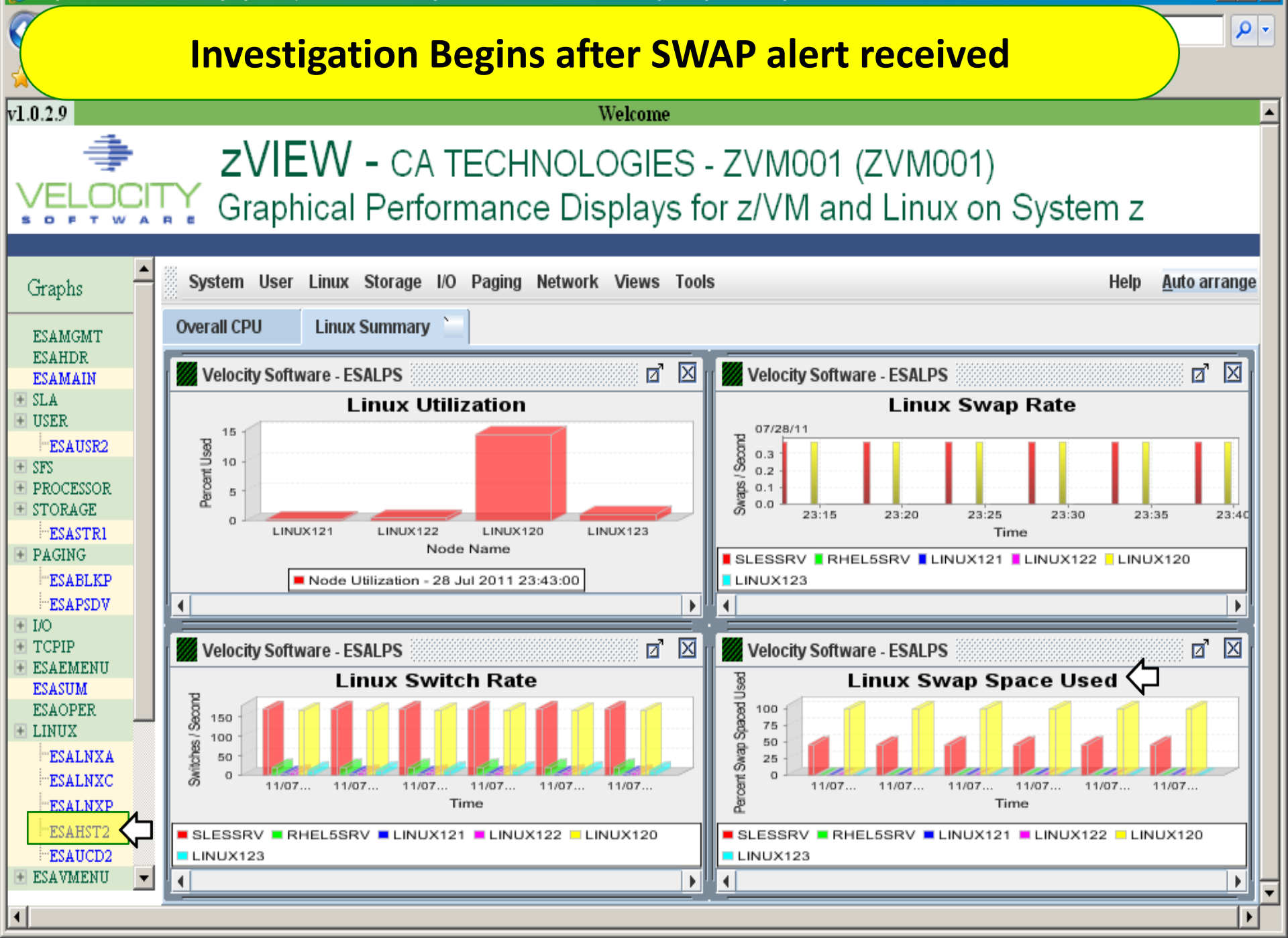

LINUX HOST Storage Analysis Report - Microsoft Internet Explorer provided by CA
ESAHST2
Linux Host Storage Analysis
Welcome
VELOCITY SOFTWARE
VIEW - CA TECHNOLOGIES - ZVM001 (ZVM001)
ESAHST2 - LINUX HOST Storage Analysis Report
Close Window
Pause Updates
ESASTR1
PAGING
ESABLKP
ESAPSDV
I/O
TCPIP
ESAEMENU
ESASUM
ESAOPER
LINUX
ESALNXA
ESALNXC
ESALNXP
ESAHST2
ESAUCD2
ESAVMENU
INDEX
EMULATION
ESATUNE
ALERTS
DEMO
HEALTH
VSI Add-ons
Help
Parameters
Archives
Time Server Index <-Utilization-> <MegaByte> Size Used Pct Full Errors <-----Storage--------> Alloc Units Description
20:40:00 LINUX123 6 2273 1653 72.7 0 4096 /usr
20:40:00 LINUX123 4 2273 838 36.9 0 4096 /
20:40:00 LINUX123 3 42 0 0 0 1024 Swap Space
20:40:00 LINUX123 2 499 312 62.4 0 1024 Real Memory
20:40:00 LINUX123 1 499 22 4.3 0 1024 Memory Buffers
20:40:00 LINUX120 7 2310 1533 66.4 0 4096 /usr
20:40:00 LINUX120 4 2310 856 37.1 0 4096 /
20:40:00 LINUX120 3 36 0 0 0 1024 Swap Space
20:40:00 LINUX120 2 493 228 46.2 0 1024 Real Memory
20:40:00 LINUX120 1 493 7 1.4 0 1024 Memory Buffers
20:40:00 LINUX122 6 2273 1566 68.9 0 4096 /usr
20:40:00 LINUX122 4 2273 662 29.1 0 4096 /
20:40:00 LINUX122 3 42 0 0 0 1024 Swap Space
20:40:00 LINUX122 2 499 299 59.9 0 1024 Real Memory
20:40:00 LINUX122 1 499 18 3.6 0 1024 Memory Buffers
20:40:00 LINUX121 7 2310 1956 84.7 0 4096 /usr
20:40:00 LINUX121 4 2310 836 36.2 0 4096 /
20:40:00 LINUX121 3 42 0 0 0 1024 Swap Space
20:40:00 LINUX121 2 492 79 16.0 0 1024 Real Memory
20:40:00 LINUX121 1 492 7 1.5 0 1024 Memory Buffers

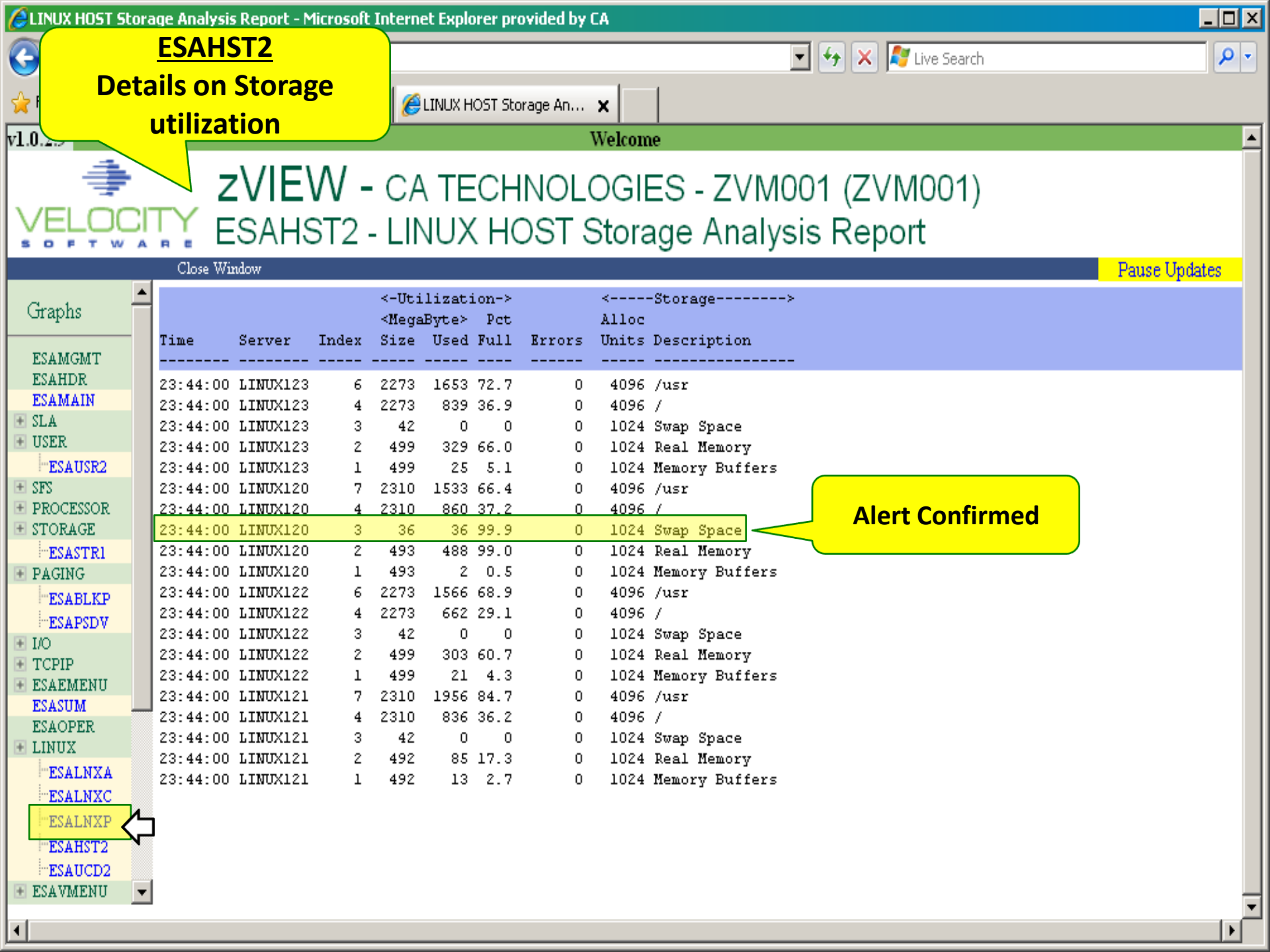

Exceptions Analysis Alerts - 11/07/28 at 20:47 - Microsoft Internet Explorer provided by CA
Live Search
Alerts Demo
User defined customized alerts
Welcome
zVIEW - CA TECHNOLOGIES - ZVM001 (ZVM001)
VELOCITY SOFTWARE
DEMO - Exceptions Analysis Alerts - 11/07/28 at 20:47
Close Window
Pause Updates
ESASTR1
PAGING
ESABLKP
ESAPSDV
I/O
TCPIP
ESAEMENU
ESASUM
ESAOPER
LINUX
ESALNXA
ESALNXC
ESALNXP
ESAHST2
ESAUCD2
ESAVMENU
INDEX
EMULATION
ESATUNE
ALERTS
DEMO
HEALTH
VSI Add-ons
Help
Parameters
Archives
Code
Alert Description
LNDX
/usr area on LINUX121 is 84.66% full


zvm001
QWS3270 Edit View Options Tools Help
SYSTEM 095% 41 Users
V M : O p e r a t o r
Thursday 28Jul11 23:43
Critical SWAP Utilization MSG from ZVPS for LINUX120 received on VM:Operator System Console
23:42:21 VPSE LNSU LINUX120 SWAP UTILIZATION 99.94%
ZALERT : VPSE LNSU LINUX120 SWAP UTILIZATION 99.94%
23:43:21 VPSW LNDX LINUX121 /usr IS AT 84.66%
SYSTEM Window
1= ViewNext 2= Review 3= ViewPrev 4= RemvLine 5= Remv All 6= Retrieve
7= 8= 9= Repeat 10= Print 11= Expand 12= Remv Top
===>
MAINOPER
Connected to zvm001.ca.com port 23
27/6
NUM
22:43:03
IBM-3278-5-E

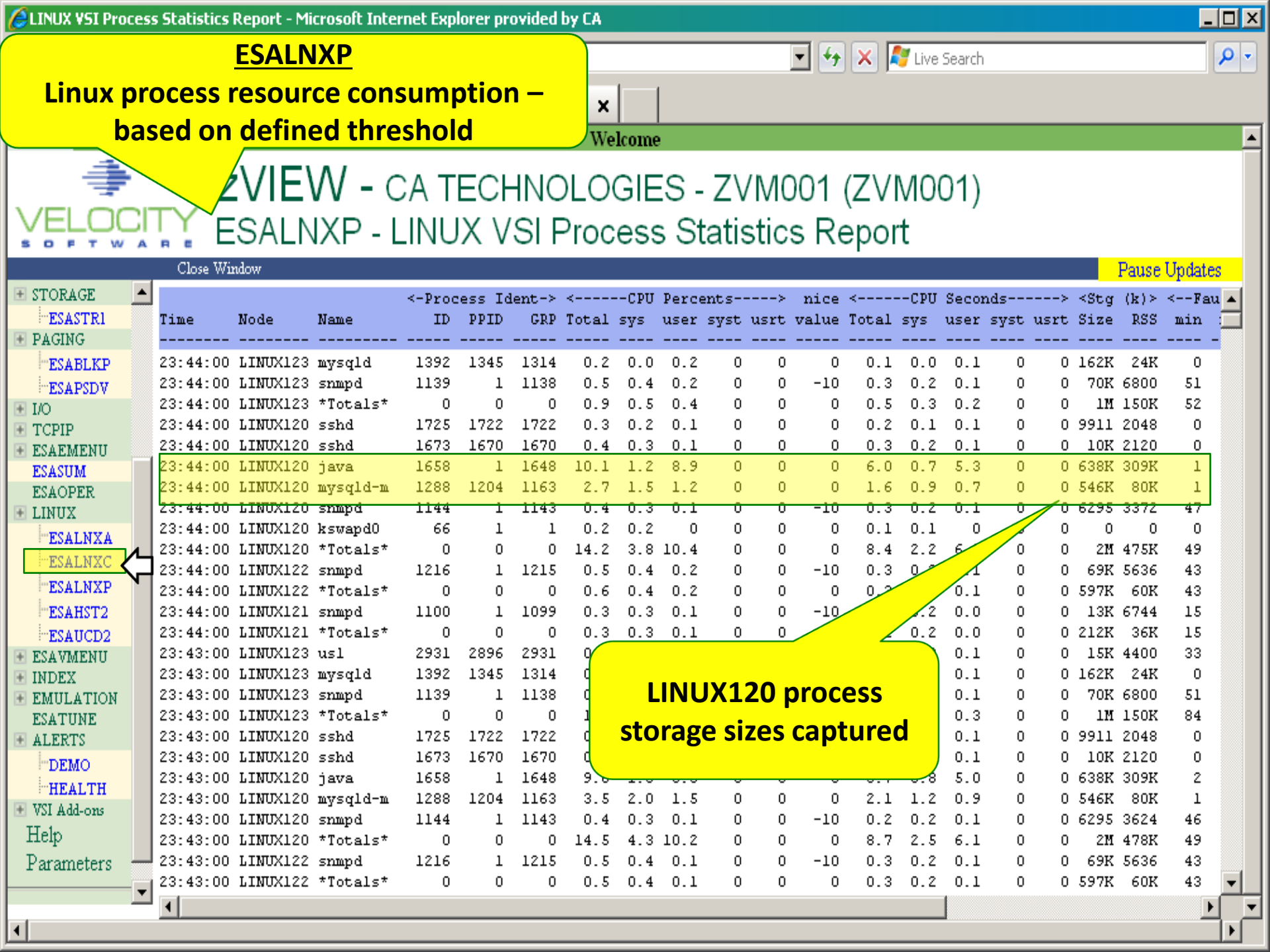

zvm001
QWS3270 Edit View Options Tools Help
SYSTEM 097% 41 Users VM:Operator Thursday 28Jul11 23:46
VPSE LNSU LINUX120 SWAP UTILIZATION 99.79%
MSG held until “condition cleared” message received through HOLDMSG facility
23:46:22 VPSW LNDX LINUX121 /usr IS AT 84.66%
SYSTEM Window
1= ViewNext 2= Review 3= ViewPrev 4= RemvLine 5= Remv All 6= Retrieve
7= 8= 9= Repeat 10= Print 11= Expand 12= Remv Top
===>
MAINOPER
Connected to zvm001.ca.com port 23
27/6
NUM
22:46:16
IBM-3278-5-E

Investigation Begins after SWAP alert received

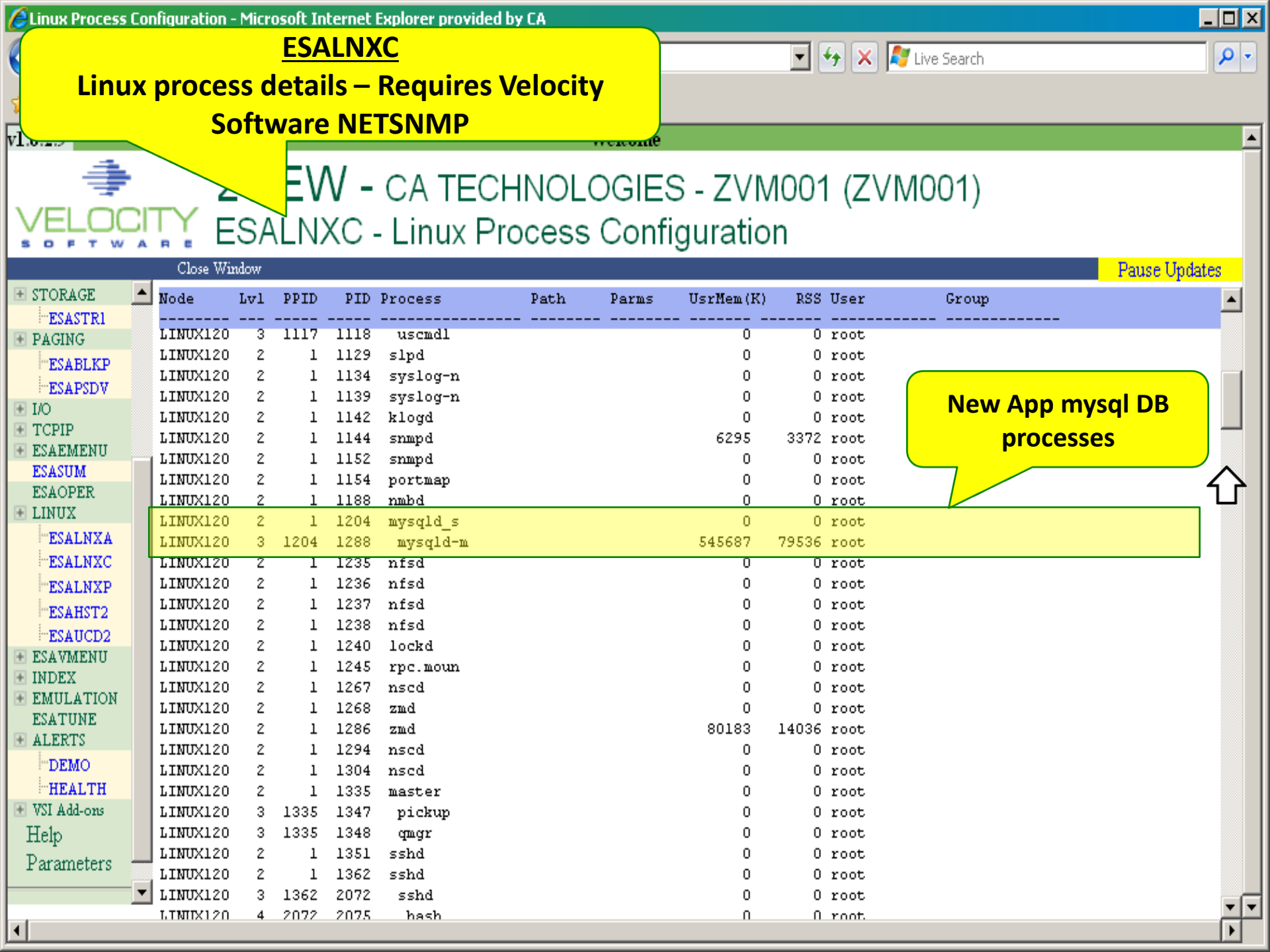


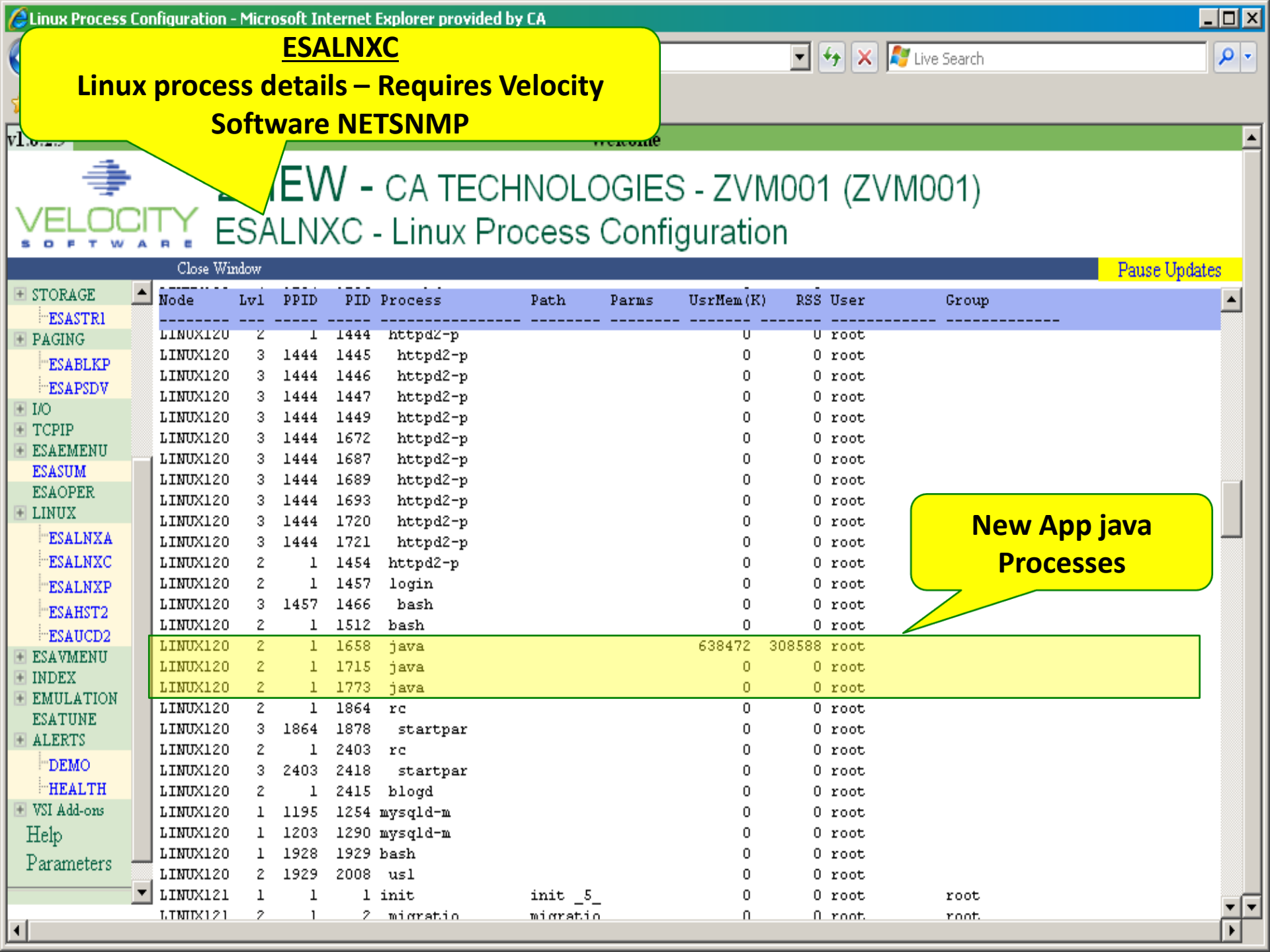


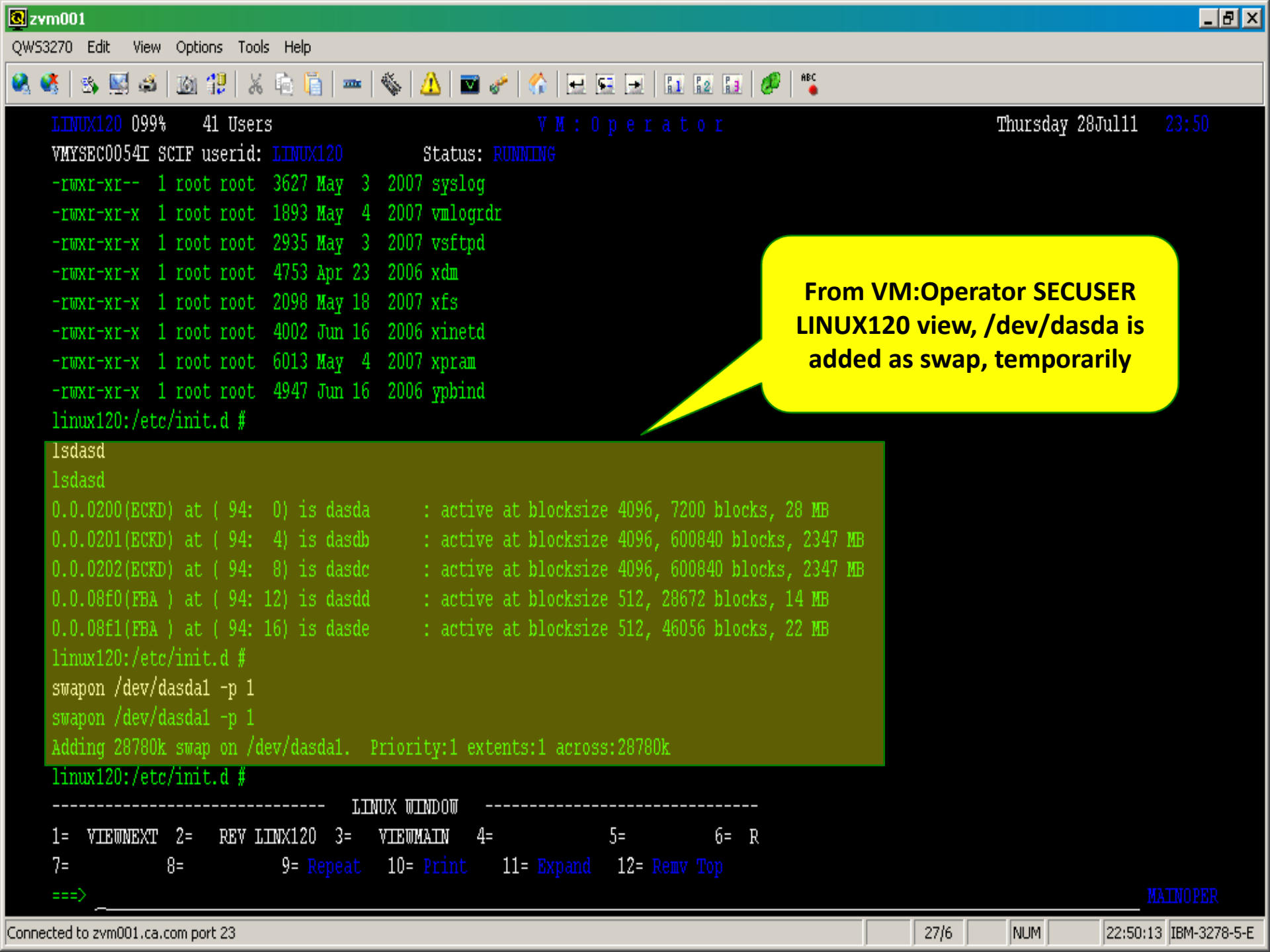
Time	Server	Index	<Utilization-> <MegaByte> Size	Used	Pct Full	Errors	<-----Storage--------> Alloc Units	Description
23:44:00	LINUX123	6	2273	1653	72.7	0	4096	/usr
23:44:00	LINUX123	4	2273	839	36.9	0	4096	/
23:44:00	LINUX123	3	42	0	0	0	1024	Swap Space
23:44:00	LINUX123	2	499	329	66.0	0	1024	Real Memory
23:44:00	LINUX123	1	499	25	5.1	0	1024	Memory Buffers
23:44:00	LINUX120	7	2310	1533	66.4	0	4096	/usr
23:44:00	LINUX120	4	2310	860	37.2	0	4096	/
23:44:00	LINUX120	3	36	36	99.9	0	1024	Swap Space
23:44:00	LINUX120	2	493	488	99.0	0	1024	Real Memory
23:44:00	LINUX120	1	493	2	0.5	0	1024	Memory Buffers
23:44:00	LINUX122	6	2273	1566	68.9	0	4096	/usr
23:44:00	LINUX122	4	2273	662	29.1	0	4096	/
23:44:00	LINUX122	3	42	0	0	0	1024	Swap Space
23:44:00	LINUX122	2	499	303	60.7	0	1024	Real Memory
23:44:00	LINUX122	1	499	21	4.3	0	1024	Memory Buffers
23:44:00	LINUX121	7	2310	1956	84.7	0	4096	/usr
23:44:00	LINUX121	4	2310	836	36.2	0	4096	/
23:44:00	LINUX121	3	42	0	0	0	1024	Swap Space
23:44:00	LINUX121	2	492	85	17.3	0	1024	Real Memory
23:44:00	LINUX121	1	492	13	2.7	0	1024	Memory Buffers

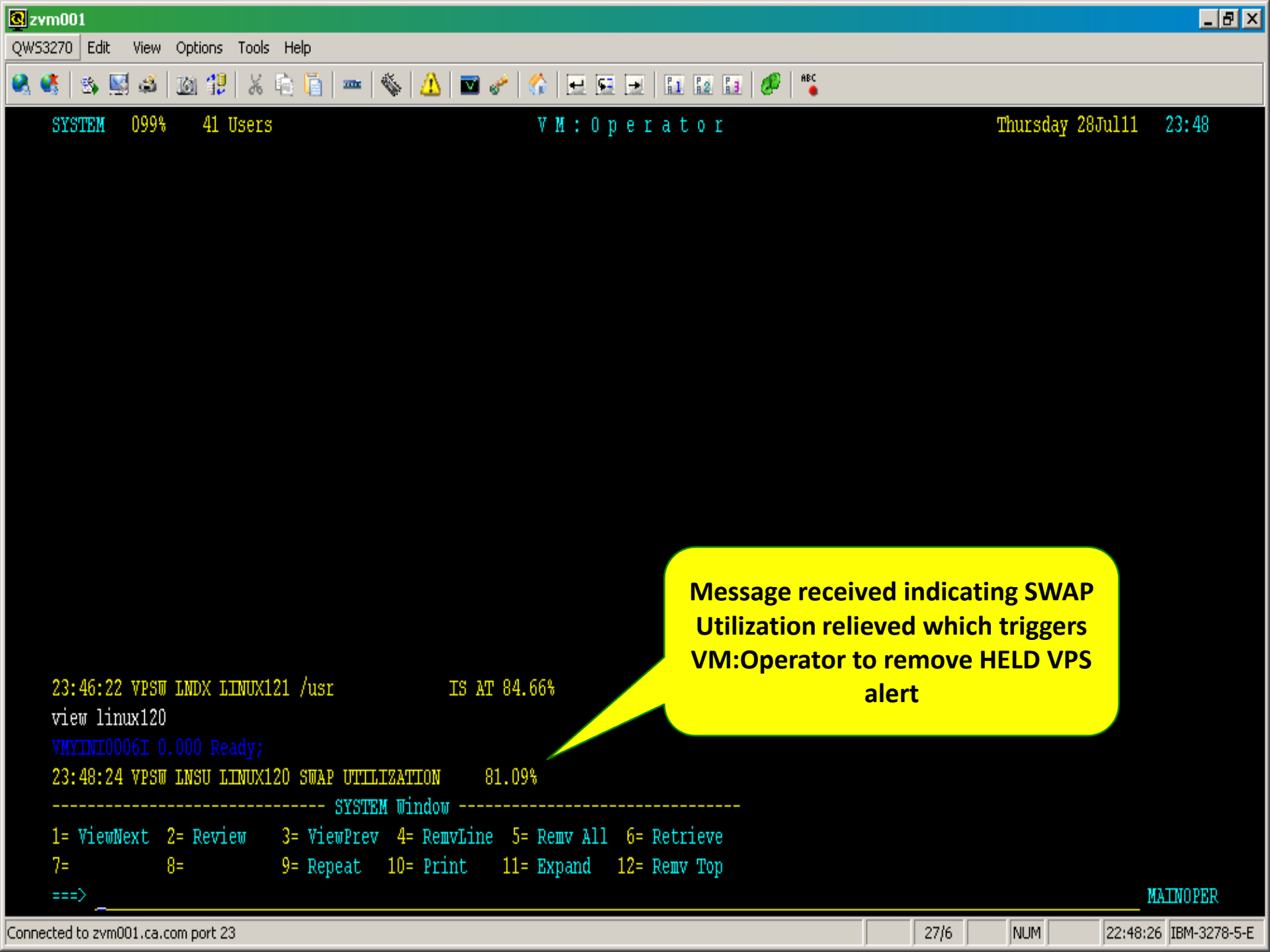


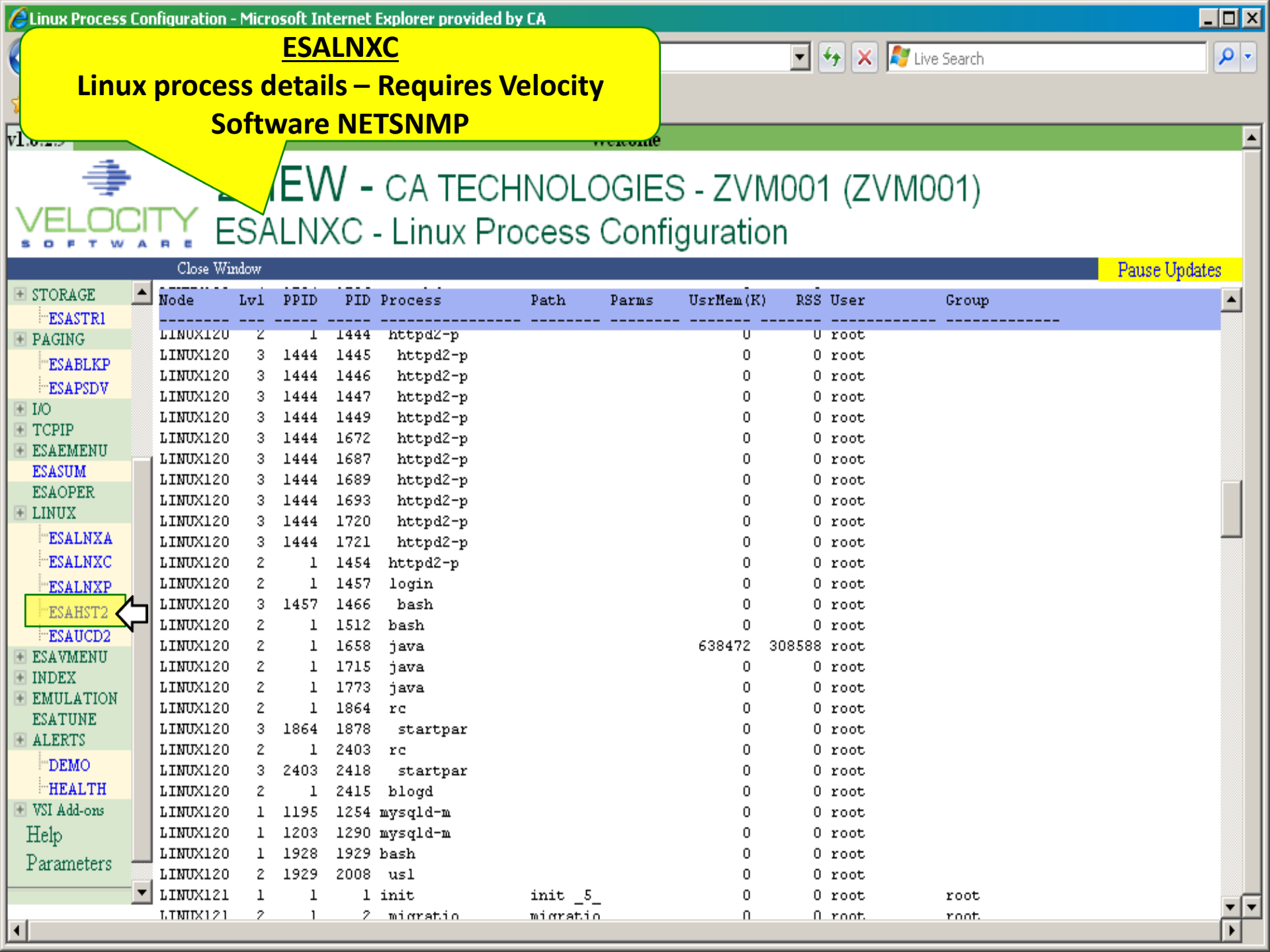
Time	Node	Name	<-Process Ident-> ID	PPID	GRP	<------CPU Percents-----> Total	sys	user	syst	usrt	nice value	<------CPU Seconds------> Total	sys	user	syst	usrt	<Stg (k)> Size	RSS	<--Fau min
23:44:00	LINUX123	mysqld	1392	1345	1314	0.2	0.0	0.2	0	0	0	0.1	0.0	0.1	0	0	162K	24K	0
23:44:00	LINUX123	snmpd	1139	1	1138	0.5	0.4	0.2	0	0	-10	0.3	0.2	0.1	0	0	70K	6800	51
23:44:00	LINUX123	*Totals*	0	0	0	0.9	0.5	0.4	0	0	0	0.5	0.3	0.2	0	0	1M	150K	52
23:44:00	LINUX120	sshd	1725	1722	1722	0.3	0.2	0.1	0	0	0	0.2	0.1	0.1	0	0	9911	2048	0
23:44:00	LINUX120	sshd	1673	1670	1670	0.4	0.3	0.1	0	0	0	0.3	0.2	0.1	0	0	10K	2120	0
23:44:00	LINUX120	java	1658	1	1648	10.1	1.2	8.9	0	0	0	6.0	0.7	5.3	0	0	638K	309K	1
23:44:00	LINUX120	mysqld-m	1288	1204	1163	2.7	1.5	1.2	0	0	0	1.6	0.9	0.7	0	0	546K	80K	1
23:44:00	LINUX120	snmpd	1144	1	1143	0.4	0.3	0.1	0	0	-10	0.3	0.2	0.1	0	0	6295	3372	47
23:44:00	LINUX120	kswapd0	66	1	1	0.2	0.2	0	0	0	0	0.1	0.1	0	0	0	0	0	0
23:44:00	LINUX120	*Totals*	0	0	0	14.2	3.8	10.4	0	0	0	8.4	2.2	6	0	0	2M	475K	49
23:44:00	LINUX122	snmpd	1216	1	1215	0.5	0.4	0.2	0	0	-10	0.3	0	1	0	0	69K	5636	43
23:44:00	LINUX122	*Totals*	0	0	0	0.6	0.4	0.2	0	0	0	0		0.1	0	0	597K	60K	43
23:44:00	LINUX121	snmpd	1100	1	1099	0.3	0.3	0.1	0	0	-10			0.0	0	0	13K	6744	15
23:44:00	LINUX121	*Totals*	0	0	0	0.3	0.3	0.1	0	0				0.0	0	0	212K	36K	15
23:43:00	LINUX123	usl	2931	2896	2931	0								0.1	0	0	15K	4400	33
23:43:00	LINUX123	mysqld	1392	1345	1314	0								0.1	0	0	162K	24K	0
23:43:00	LINUX123	snmpd	1139	1	1138	0								0.1	0	0	70K	6800	51
23:43:00	LINUX123	*Totals*	0	0	0	1								0.3	0	0	1M	150K	84
23:43:00	LINUX120	sshd	1725	1722	1722	0								0.1	0	0	9911	2048	0
23:43:00	LINUX120	sshd	1673	1670	1670	0								0.1	0	0	10K	2120	0
23:43:00	LINUX120	java	1658	1	1648	9.6	1.0	0.8	0	0	0	0.7	0.8	5.0	0	0	638K	309K	2
23:43:00	LINUX120	mysqld-m	1288	1204	1163	3.5	2.0	1.5	0	0	0	2.1	1.2	0.9	0	0	546K	80K	1
23:43:00	LINUX120	snmpd	1144	1	1143	0.4	0.3	0.1	0	0	-10	0.2	0.2	0.1	0	0	6295	3624	46
23:43:00	LINUX120	*Totals*	0	0	0	14.5	4.3	10.2	0	0	0	8.7	2.5	6.1	0	0	2M	478K	49
23:43:00	LINUX122	snmpd	1216	1	1215	0.5	0.4	0.1	0	0	-10	0.3	0.2	0.1	0	0	69K	5636	43
23:43:00	LINUX122	*Totals*	0	0	0	0.5	0.4	0.1	0	0	0	0.3	0.2	0.1	0	0	597K	60K	43


Linux Process Configuration - Microsoft Internet Explorer provided by CA
ESALNXC
Linux process details – Requires Velocity Software NETSNMP
VELOCITY SOFTWARE
EW - CA TECHNOLOGIES - ZVM001 (ZVM001)
ESALNXC - Linux Process Configuration
Close Window
Pause Updates
STORAGE
ESASTR1
PAGING
ESABLKP
ESAPSDV
I/O
TCPIP
ESAEMENU
ESASUM
ESAOPER
LINUX
ESALNXA
ESALNXC
ESALNXP
ESAHST2
ESAUCD2
ESAVMENU
INDEX
EMULATION
ESATUNE
ALERTS
DEMO
HEALTH
VSI Add-ons
Help
Parameters
Node Lvl PPID PID Process Path Parms UsrMem(K) RSS User Group
LINUX120 3 1117 1118 uscmdl 0 0 root
LINUX120 2 1 1129 slpd 0 0 root
LINUX120 2 1 1134 syslog-n 0 0 root
LINUX120 2 1 1139 syslog-n 0 0 root
LINUX120 2 1 1142 klogd 0 0 root
LINUX120 2 1 1144 snmpd 6295 3372 root
LINUX120 2 1 1152 snmpd 0 0 root
LINUX120 2 1 1154 portmap 0 0 root
LINUX120 2 1 1188 nmbd 0 0 root
LINUX120 2 1 1204 mysqld_s 0 0 root
LINUX120 3 1204 1288 mysqld-m 545687 79536 root
LINUX120 2 1 1235 nfsd 0 0 root
LINUX120 2 1 1236 nfsd 0 0 root
LINUX120 2 1 1237 nfsd 0 0 root
LINUX120 2 1 1238 nfsd 0 0 root
LINUX120 2 1 1240 lockd 0 0 root
LINUX120 2 1 1245 rpc.moun 0 0 root
LINUX120 2 1 1267 nscd 0 0 root
LINUX120 2 1 1268 zmd 0 0 root
LINUX120 2 1 1286 zmd 80183 14036 root
LINUX120 2 1 1294 nscd 0 0 root
LINUX120 2 1 1304 nscd 0 0 root
LINUX120 2 1 1335 master 0 0 root
LINUX120 3 1335 1347 pickup 0 0 root
LINUX120 3 1335 1348 qmgr 0 0 root
LINUX120 2 1 1351 sshd 0 0 root
LINUX120 2 1 1362 sshd 0 0 root
LINUX120 3 1362 2072 sshd 0 0 root
LINUX120 4 2072 2075 bash 0 0 root
New App mysql DB processes

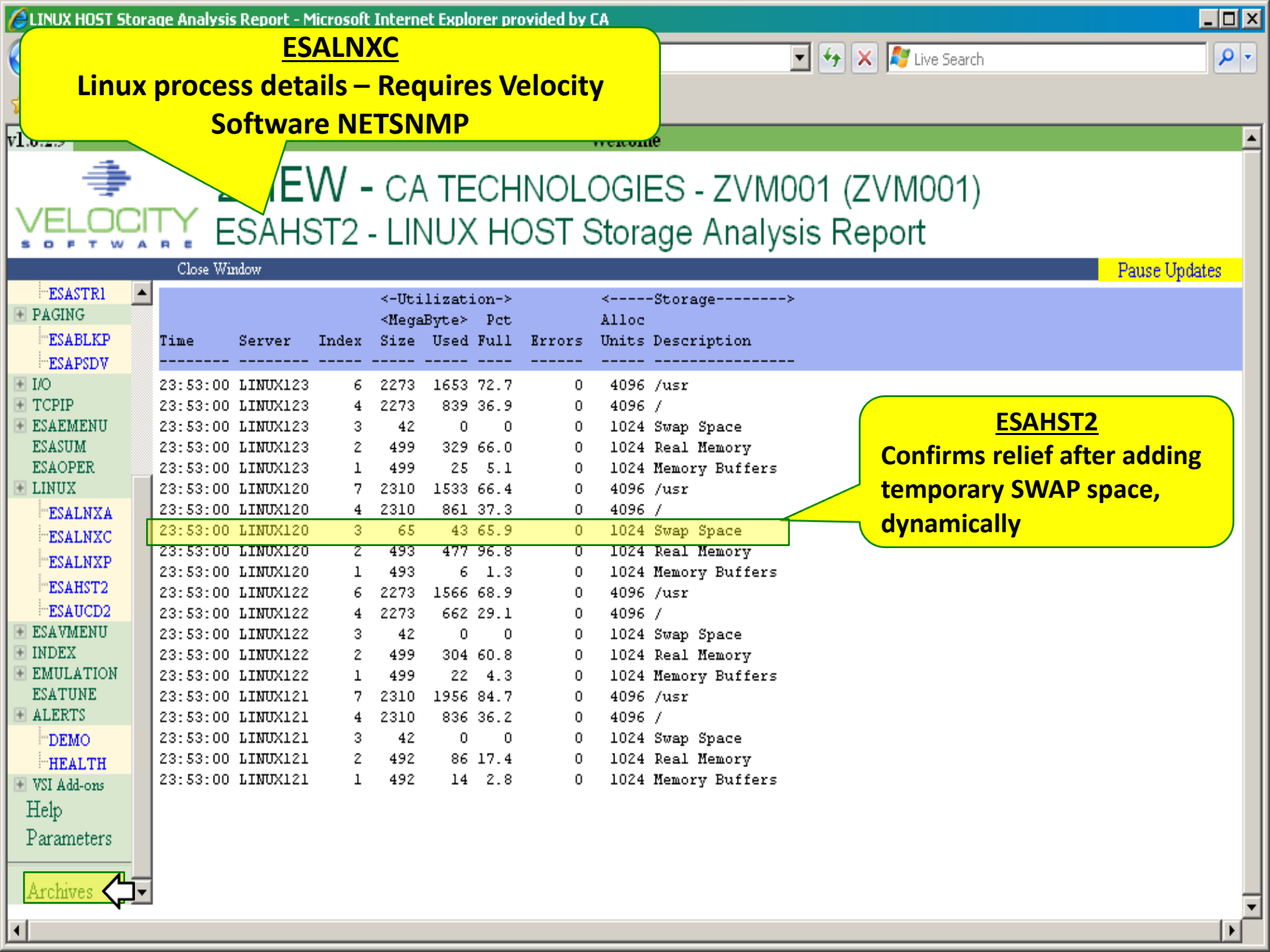

Linux Process Configuration - Microsoft Internet Explorer provided by CA
ESALNXC
Linux process details – Requires Velocity Software NETSNMP
VELOCITY SOFTWARE
VIEW - CA TECHNOLOGIES - ZVM001 (ZVM001)
ESALNXC - Linux Process Configuration
Close Window
Pause Updates
STORAGE
ESASTR1
PAGING
ESABLKP
ESAPSDV
I/O
TCPIP
ESAEMENU
ESASUM
ESAOPER
LINUX
ESALNXA
ESALNXC
ESALNXP
ESAHST2
ESAUCD2
ESAVMENU
INDEX
EMULATION
ESATUNE
ALERTS
DEMO
HEALTH
VSI Add-ons
Help
Parameters
Node Lvl PPID PID Process Path Parms UsrMem(K) RSS User Group
LINUX120 2 1 1444 httpd2-p 0 0 root
LINUX120 3 1444 1445 httpd2-p 0 0 root
LINUX120 3 1444 1446 httpd2-p 0 0 root
LINUX120 3 1444 1447 httpd2-p 0 0 root
LINUX120 3 1444 1449 httpd2-p 0 0 root
LINUX120 3 1444 1672 httpd2-p 0 0 root
LINUX120 3 1444 1687 httpd2-p 0 0 root
LINUX120 3 1444 1689 httpd2-p 0 0 root
LINUX120 3 1444 1693 httpd2-p 0 0 root
LINUX120 3 1444 1720 httpd2-p 0 0 root
LINUX120 3 1444 1721 httpd2-p 0 0 root
LINUX120 2 1 1454 httpd2-p 0 0 root
LINUX120 2 1 1457 login 0 0 root
LINUX120 3 1457 1466 bash 0 0 root
LINUX120 2 1 1512 bash 0 0 root
LINUX120 2 1 1658 java 638472 308588 root
LINUX120 2 1 1715 java 0 0 root
LINUX120 2 1 1773 java 0 0 root
LINUX120 2 1 1864 rc 0 0 root
LINUX120 3 1864 1878 startpar 0 0 root
LINUX120 2 1 2403 rc 0 0 root
LINUX120 3 2403 2418 startpar 0 0 root
LINUX120 2 1 2415 blogd 0 0 root
LINUX120 1 1195 1254 mysqld-m 0 0 root
LINUX120 1 1203 1290 mysqld-m 0 0 root
LINUX120 1 1928 1929 bash 0 0 root
LINUX120 2 1929 2008 usl 0 0 root
LINUX121 1 1 1 init init _5_ 0 0 root root
New App java Processes

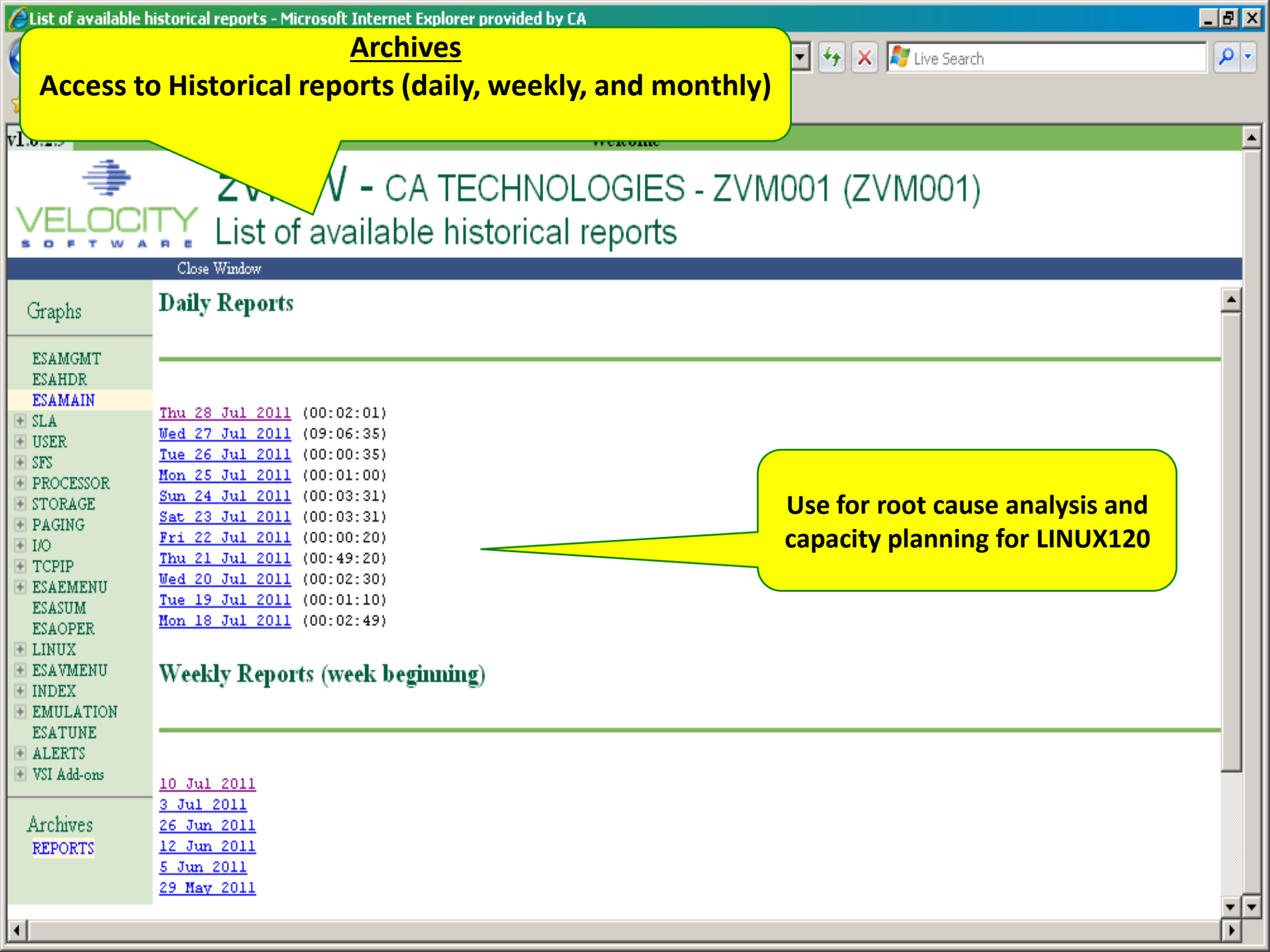

zvm001
QWS3270 Edit View Options Tools Help
LINUX120 099% 41 Users VM:Operator Thursday 28Jul11 23:50
VMYSEC0054I SCIF userid: LINUX120 Status: RUNNING
-rwxr-xr-- 1 root root 3627 May 3 2007 syslog
-rwxr-xr-x 1 root root 1893 May 4 2007 vmlogrdr
-rwxr-xr-x 1 root root 2935 May 3 2007 vsftpd
-rwxr-xr-x 1 root root 4753 Apr 23 2006 xdm
-rwxr-xr-x 1 root root 2098 May 18 2007 xfs
-rwxr-xr-x 1 root root 4002 Jun 16 2006 xinetd
-rwxr-xr-x 1 root root 6013 May 4 2007 xpram
-rwxr-xr-x 1 root root 4947 Jun 16 2006 ypbind
linux120:/etc/init.d #
lsdasd
lsdasd
0.0.0200(ECKD) at (94: 0) is dasda : active at blocksize 4096, 7200 blocks, 28 MB
0.0.0201(ECKD) at (94: 4) is dasdb : active at blocksize 4096, 600840 blocks, 2347 MB
0.0.0202(ECKD) at (94: 8) is dasdc : active at blocksize 4096, 600840 blocks, 2347 MB
0.0.08f0(FBA) at (94: 12) is dasdd : active at blocksize 512, 28672 blocks, 14 MB
0.0.08f1(FBA) at (94: 16) is dasde : active at blocksize 512, 46056 blocks, 22 MB
linux120:/etc/init.d #
swapon /dev/dasda1 -p 1
swapon /dev/dasda1 -p 1
Adding 28780k swap on /dev/dasda1. Priority:1 extents:1 across:28780k
linux120:/etc/init.d #
LINUX WINDOW
1= VIEWNEXT 2= REV LINX120 3= VIEWMAIN 4= 5= 6= R
7= 8= 9= Repeat 10= Print 11= Expand 12= Remv Top
===>
MAINOPER
From VM:Operator SECUSER LINUX120 view, /dev/dasda is added as swap, temporarily
Connected to zvm001.ca.com port 23
27/6
NUM
22:50:13
IBM-3278-5-E


zvm001
QWS3270 Edit View Options Tools Help
SYSTEM 099% 41 Users VM:Operator Thursday 28Jul11 23:48
23:46:22 VPSW LNDX LINUX121 /usr IS AT 84.66%
view linux120
VMYINI0006I 0.000 Ready;
23:48:24 VPSW LNSU LINUX120 SWAP UTILIZATION 81.09%
SYSTEM Window
1= ViewNext 2= Review 3= ViewPrev 4= RemvLine 5= Remv All 6= Retrieve
7= 8= 9= Repeat 10= Print 11= Expand 12= Remv Top
===>
MAINOPER
Message received indicating SWAP Utilization relieved which triggers VM:Operator to remove HELD VPS alert
Connected to zvm001.ca.com port 23
27/6
NUM
22:48:26
IBM-3278-5-E



Node	Lvl	PPID	PID	Process	Path	Parms	UsrMem(K)	RSS	User	Group
LINUX120	2	1	1444	httpd2-p			0	0	root	
LINUX120	3	1444	1445	httpd2-p			0	0	root	
LINUX120	3	1444	1446	httpd2-p			0	0	root	
LINUX120	3	1444	1447	httpd2-p			0	0	root	
LINUX120	3	1444	1449	httpd2-p			0	0	root	
LINUX120	3	1444	1672	httpd2-p			0	0	root	
LINUX120	3	1444	1687	httpd2-p			0	0	root	
LINUX120	3	1444	1689	httpd2-p			0	0	root	
LINUX120	3	1444	1693	httpd2-p			0	0	root	
LINUX120	3	1444	1720	httpd2-p			0	0	root	
LINUX120	3	1444	1721	httpd2-p			0	0	root	
LINUX120	2	1	1454	httpd2-p			0	0	root	
LINUX120	2	1	1457	login			0	0	root	
LINUX120	3	1457	1466	bash			0	0	root	
LINUX120	2	1	1512	bash			0	0	root	
LINUX120	2	1	1658	java			638472	308588	root	
LINUX120	2	1	1715	java			0	0	root	
LINUX120	2	1	1773	java			0	0	root	
LINUX120	2	1	1864	rc			0	0	root	
LINUX120	3	1864	1878	startpar			0	0	root	
LINUX120	2	1	2403	rc			0	0	root	
LINUX120	3	2403	2418	startpar			0	0	root	
LINUX120	2	1	2415	blogd			0	0	root	
LINUX120	1	1195	1254	mysqld-m			0	0	root	
LINUX120	1	1203	1290	mysqld-m			0	0	root	
LINUX120	1	1928	1929	bash			0	0	root	
LINUX120	2	1929	2008	usl			0	0	root	
LINUX121	1	1	1	init	init _5_		0	0	root	root
LINUX121	2	1	2	migratio	migratio		0	0	root	root


LINUX HOST Storage Analysis Report - Microsoft Internet Explorer provided by CA
Live Search
ESALNXC
Linux process details – Requires Velocity Software NETSNMP
VELOCITY SOFTWARE
EW - CA TECHNOLOGIES - ZVM001 (ZVM001)
ESAHST2 - LINUX HOST Storage Analysis Report
Close Window
Pause Updates
ESASTR1
PAGING
ESABLKP
ESAPSDV
I/O
TCPIP
ESAEMENU
ESASUM
ESAOPER
LINUX
ESALNXA
ESALNXC
ESALNXP
ESAHST2
ESAUCD2
ESAVMENU
INDEX
EMULATION
ESATUNE
ALERTS
DEMO
HEALTH
VSI Add-ons
Help
Parameters
Archives
Time Server Index <-Utilization-> <MegaByte> Size Used Pct Full Errors <-----Storage--------> Alloc Units Description
23:53:00 LINUX123 6 2273 1653 72.7 0 4096 /usr
23:53:00 LINUX123 4 2273 839 36.9 0 4096 /
23:53:00 LINUX123 3 42 0 0 0 1024 Swap Space
23:53:00 LINUX123 2 499 329 66.0 0 1024 Real Memory
23:53:00 LINUX123 1 499 25 5.1 0 1024 Memory Buffers
23:53:00 LINUX120 7 2310 1533 66.4 0 4096 /usr
23:53:00 LINUX120 4 2310 861 37.3 0 4096 /
23:53:00 LINUX120 3 65 43 65.9 0 1024 Swap Space
23:53:00 LINUX120 2 493 477 96.8 0 1024 Real Memory
23:53:00 LINUX120 1 493 6 1.3 0 1024 Memory Buffers
23:53:00 LINUX122 6 2273 1566 68.9 0 4096 /usr
23:53:00 LINUX122 4 2273 662 29.1 0 4096 /
23:53:00 LINUX122 3 42 0 0 0 1024 Swap Space
23:53:00 LINUX122 2 499 304 60.8 0 1024 Real Memory
23:53:00 LINUX122 1 499 22 4.3 0 1024 Memory Buffers
23:53:00 LINUX121 7 2310 1956 84.7 0 4096 /usr
23:53:00 LINUX121 4 2310 836 36.2 0 4096 /
23:53:00 LINUX121 3 42 0 0 0 1024 Swap Space
23:53:00 LINUX121 2 492 86 17.4 0 1024 Real Memory
23:53:00 LINUX121 1 492 14 2.8 0 1024 Memory Buffers
ESAHST2
Confirms relief after adding temporary SWAP space, dynamically


List of available historical reports - Microsoft Internet Explorer provided by CA
Live Search
Archives
Access to Historical reports (daily, weekly, and monthly)
VELOCITY SOFTWARE
- CA TECHNOLOGIES - ZVM001 (ZVM001)
List of available historical reports
Close Window
Graphs
ESAMGMT
ESAHDR
ESAMAIN
SLA
USER
SFS
PROCESSOR
STORAGE
PAGING
I/O
TCPIP
ESAEMENU
ESASUM
ESAOPER
LINUX
ESAVMENU
INDEX
EMULATION
ESATUNE
ALERTS
VSI Add-ons
Archives
REPORTS
Daily Reports
Thu 28 Jul 2011 (00:02:01)
Wed 27 Jul 2011 (09:06:35)
Tue 26 Jul 2011 (00:00:35)
Mon 25 Jul 2011 (00:01:00)
Sun 24 Jul 2011 (00:03:31)
Sat 23 Jul 2011 (00:03:31)
Fri 22 Jul 2011 (00:00:20)
Thu 21 Jul 2011 (00:49:20)
Wed 20 Jul 2011 (00:02:30)
Tue 19 Jul 2011 (00:01:10)
Mon 18 Jul 2011 (00:02:49)
Use for root cause analysis and capacity planning for LINUX120
Weekly Reports (week beginning)
10 Jul 2011
3 Jul 2011
26 Jun 2011
12 Jun 2011
5 Jun 2011
29 May 2011

Example 2: WEB DB Server – DB Restore with UPSTREAM® for Linux on System z

Scenario – Web DB process fails on LINUX123 after overnight MYSQL Upgrade and resolution is to back out upgrade

- ***UPSTREAM® for Linux on System z is used for server back ups***
  - Full Weekly; daily incremental with MERGE
  - MYSQL DB backup script (PREPROCESS) defined in UPSTREAM Backup policies for Preprocessing

    mysqldump –uroot –plinux123 winestore –x > /DBbackup/winestore_backup.sql
  - Restore performed from local server dump file – retain one copy on server
  - MYSQLD startup script modified to generate message to operator on successful start
- ***VM:Operator***
  - HOLDMSG table used for zVPS Alerts
  - SENDMAIL exec triggered by VPSE PRER custom alert
  - SECUSER Windows for each Linux on System z server
- ***zVPS™ MONALERT file includes alert for process monitoring (snmpd.conf proc statement)***

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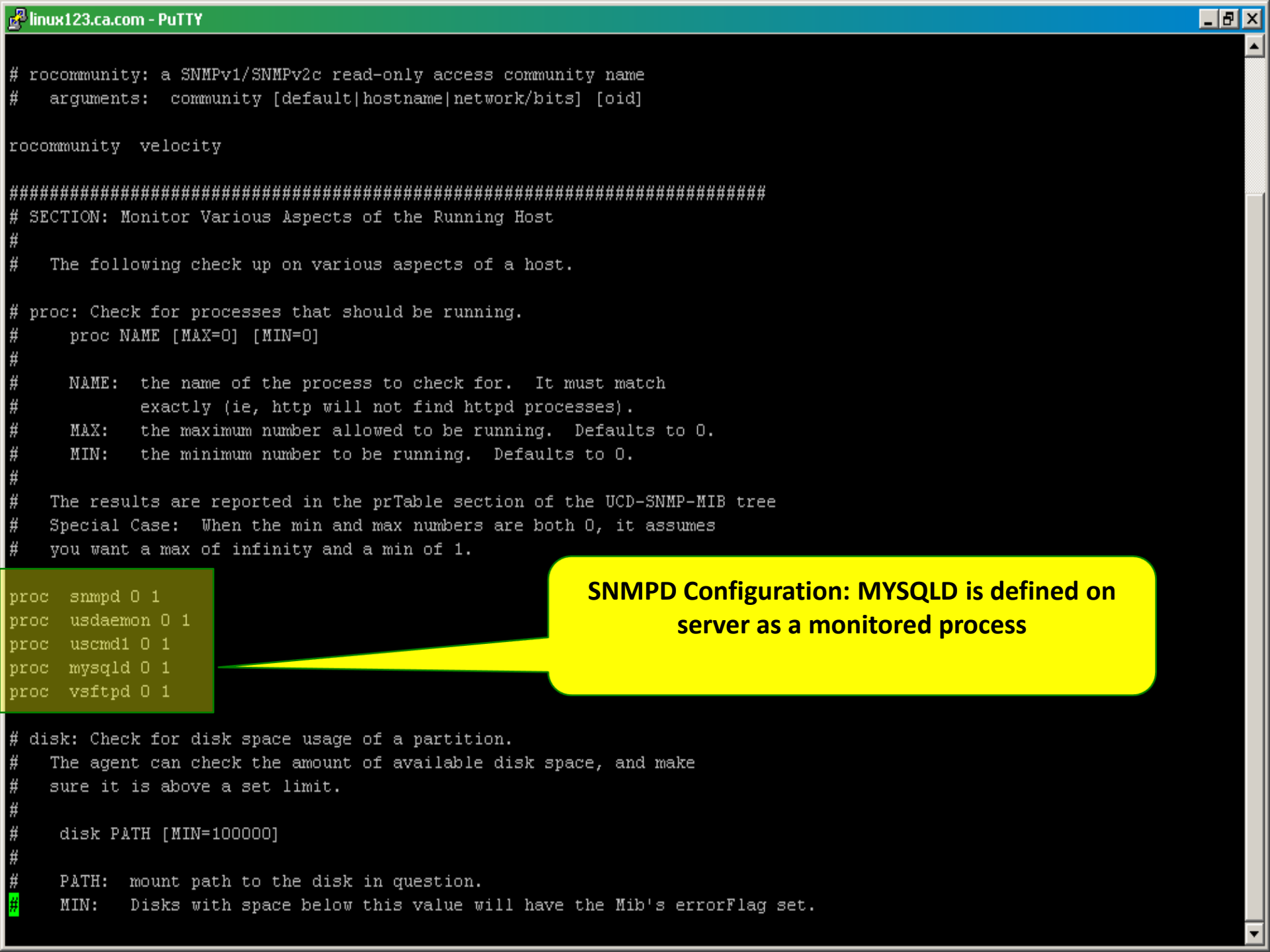
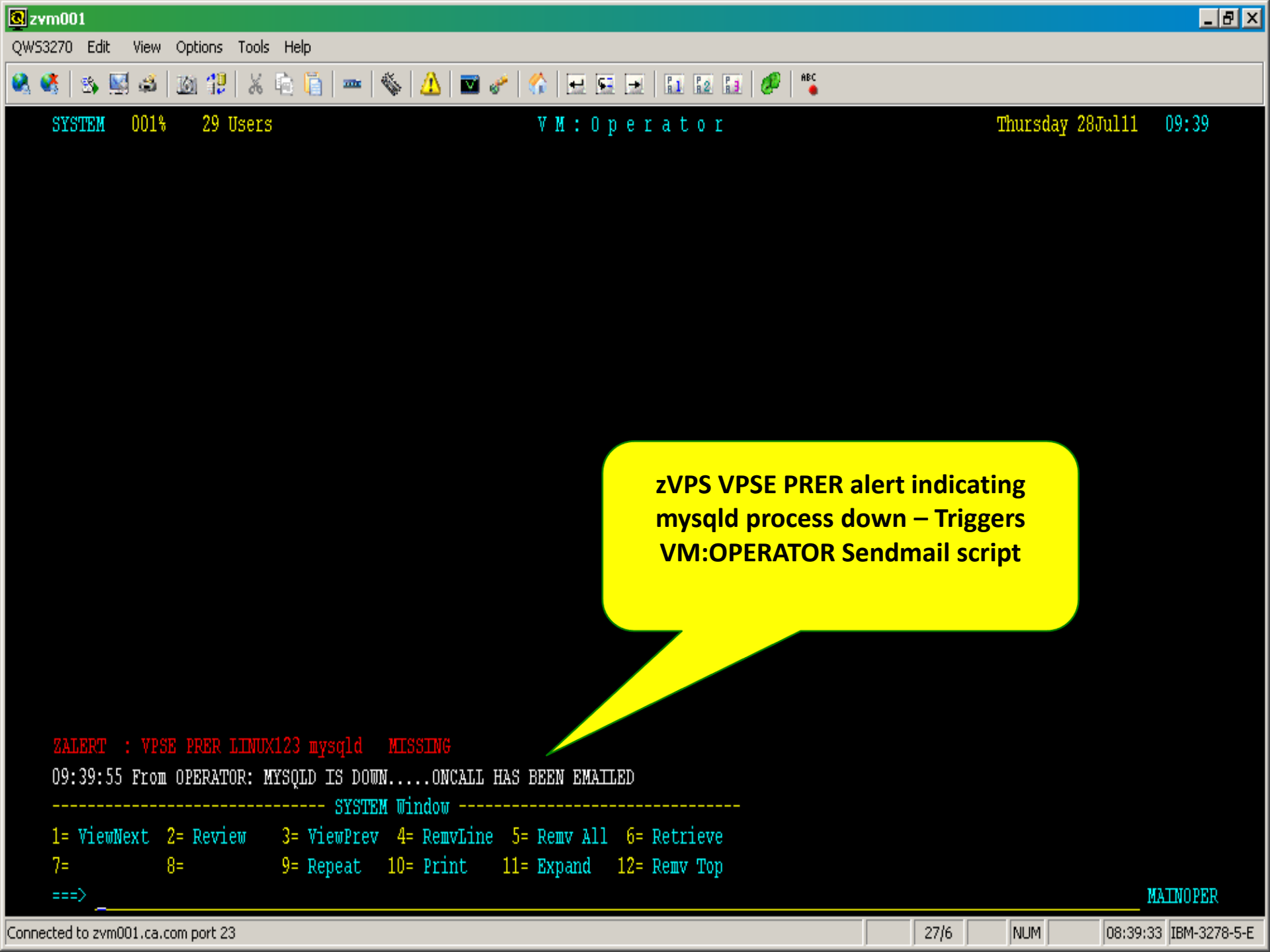

linux123.ca.com - PuTTY
rocommunity: a SNMPv1/SNMPv2c read-only access community name
arguments: community [default|hostname|network/bits] [oid]
rocommunity velocity
SECTION: Monitor Various Aspects of the Running Host
The following check up on various aspects of a host.
proc: Check for processes that should be running.
proc NAME [MAX=0] [MIN=0]
NAME: the name of the process to check for. It must match
exactly (ie, http will not find httpd processes).
MAX: the maximum number allowed to be running. Defaults to 0.
MIN: the minimum number to be running. Defaults to 0.
The results are reported in the prTable section of the UCD-SNMP-MIB tree
Special Case: When the min and max numbers are both 0, it assumes
you want a max of infinity and a min of 1.
proc snmpd 0 1
proc usdaemon 0 1
proc uscmd1 0 1
proc mysqld 0 1
proc vsftpd 0 1
SNMPD Configuration: MYSQLD is defined on server as a monitored process
disk: Check for disk space usage of a partition.
The agent can check the amount of available disk space, and make
sure it is above a set limit.
disk PATH [MIN=100000]
PATH: mount path to the disk in question.
MIN: Disks with space below this value will have the Mib's errorFlag set.


zvm001
QWS3270 Edit View Options Tools Help
SYSTEM 001% 29 Users
V M : O p e r a t o r
Thursday 28Jul11 09:39
zVPS VPSE PRER alert indicating mysqld process down – Triggers VM:OPERATOR Sendmail script
ZALERT : VPSE PRER LINUX123 mysqld MISSING
09:39:55 From OPERATOR: MYSQLD IS DOWN.....ONCALL HAS BEEN EMAILED
SYSTEM Window
1= ViewNext 2= Review 3= ViewPrev 4= RemvLine 5= Remv All 6= Retrieve
7= 8= 9= Repeat 10= Print 11= Expand 12= Remv Top
===>
MAINOPER
Connected to zvm001.ca.com port 23
27/6
NUM
08:39:33
IBM-3278-5-E

WEB DB Server – DB Restore with UPSTREAM

VM:Operator Automation: Alert generates email to Support

From: OPERATOR@ZVM001.CA.COM [mailto:OPERATOR@ZVM001.CA.COM]

Sent: Thursday, July 28, 2011 09:40 AM

To: MYSQLD ONCALL

Subject: VPSE PRER LINUX123 mysqld MISSING

zVPS alert has been received (noted in SUBJECT) and needs immediate attention.

Contact Operations support and Service Desk for assistance or when condition has been corrected.

CA VM:Operator

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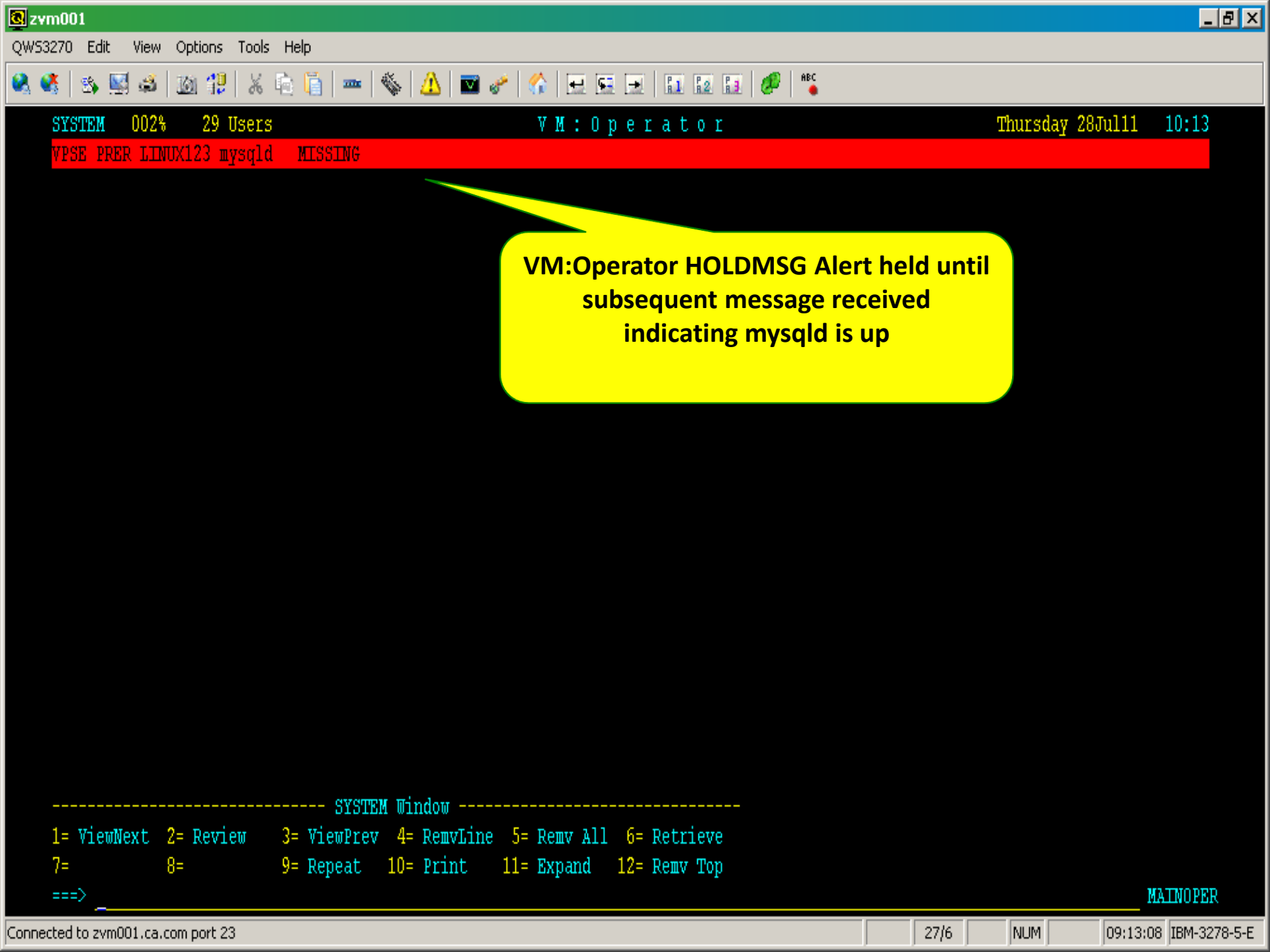
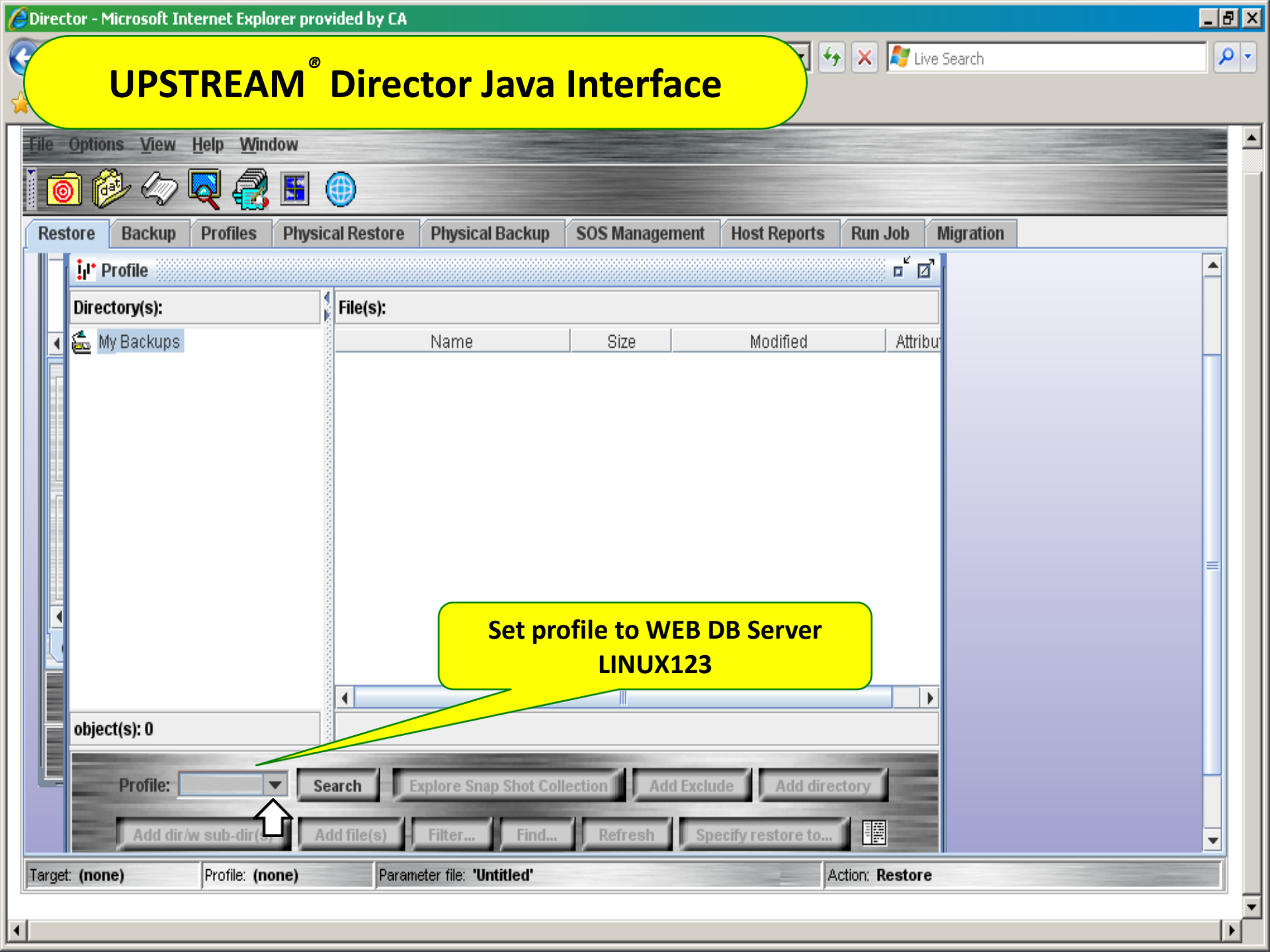
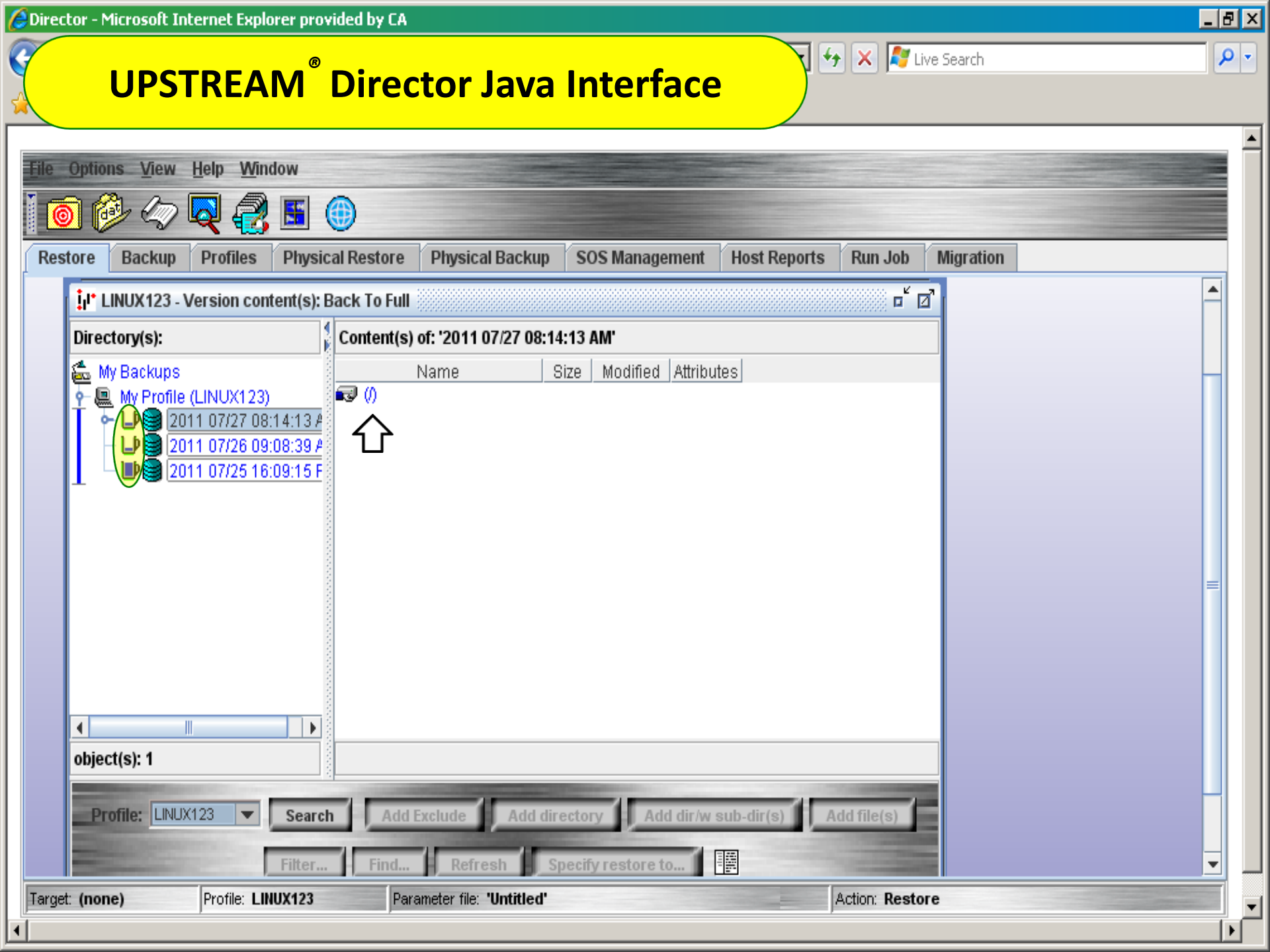
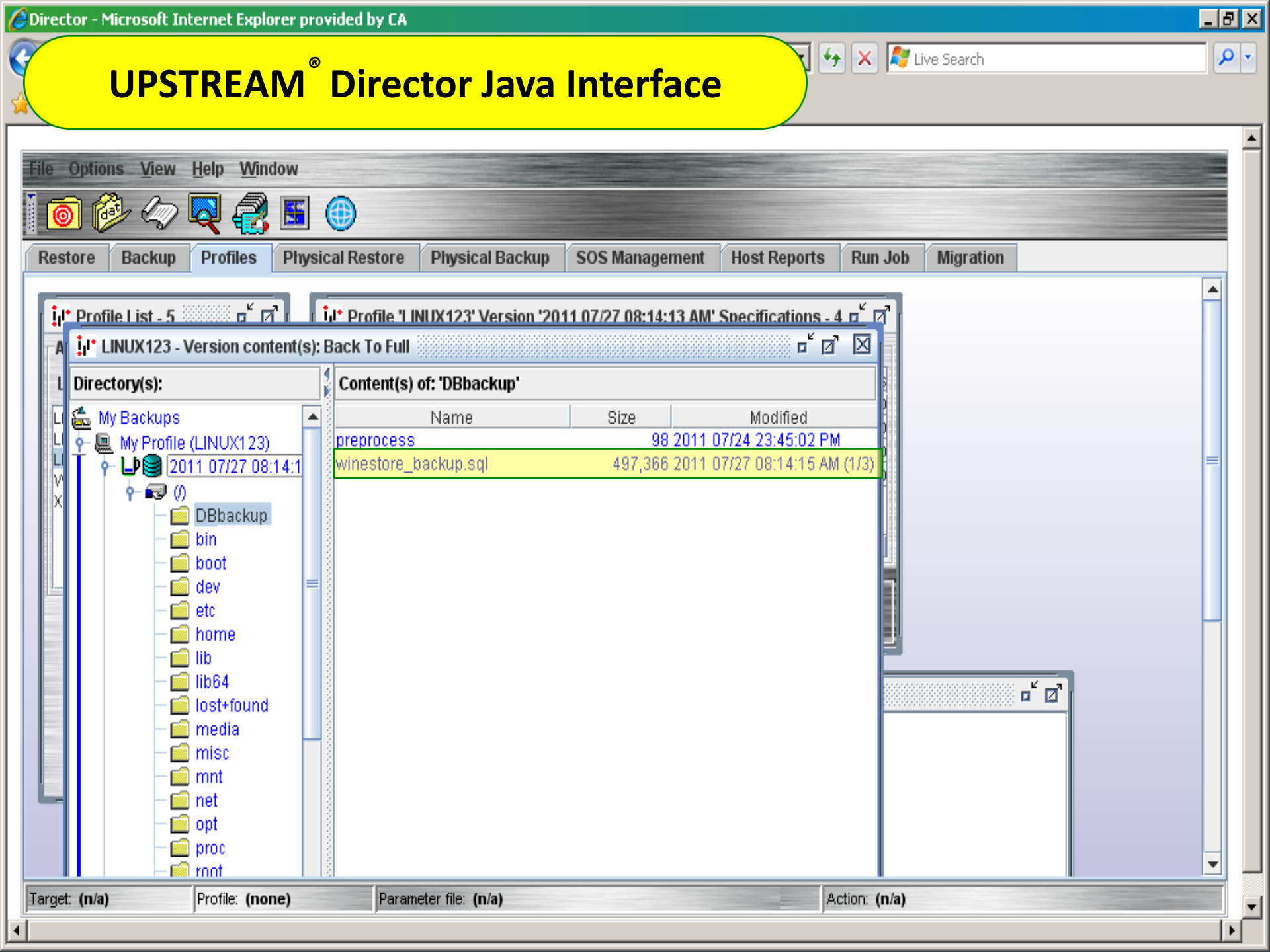
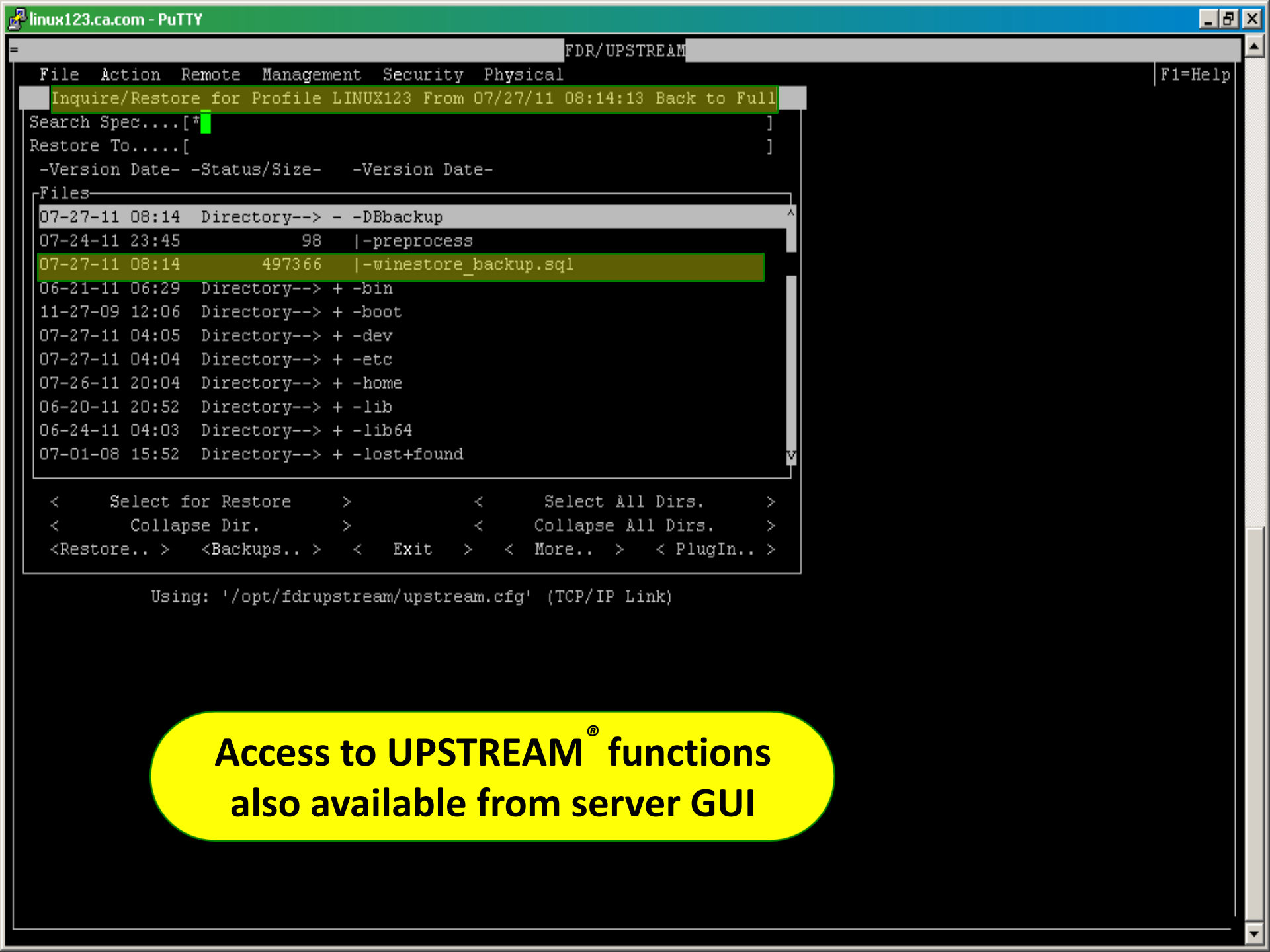

zvm001
QWS3270 Edit View Options Tools Help
SYSTEM 002% 29 Users V M : O p e r a t o r Thursday 28Jul11 10:13
VPSE PRER LINUX123 mysqld MISSING
VM:Operator HOLDMSG Alert held until subsequent message received indicating mysqld is up
---------- SYSTEM Window ----------
1= ViewNext 2= Review 3= ViewPrev 4= RemvLine 5= Remv All 6= Retrieve
7= 8= 9= Repeat 10= Print 11= Expand 12= Remv Top
===>
MAINOPER
Connected to zvm001.ca.com port 23
27/6
NUM
09:13:08
IBM-3278-5-E

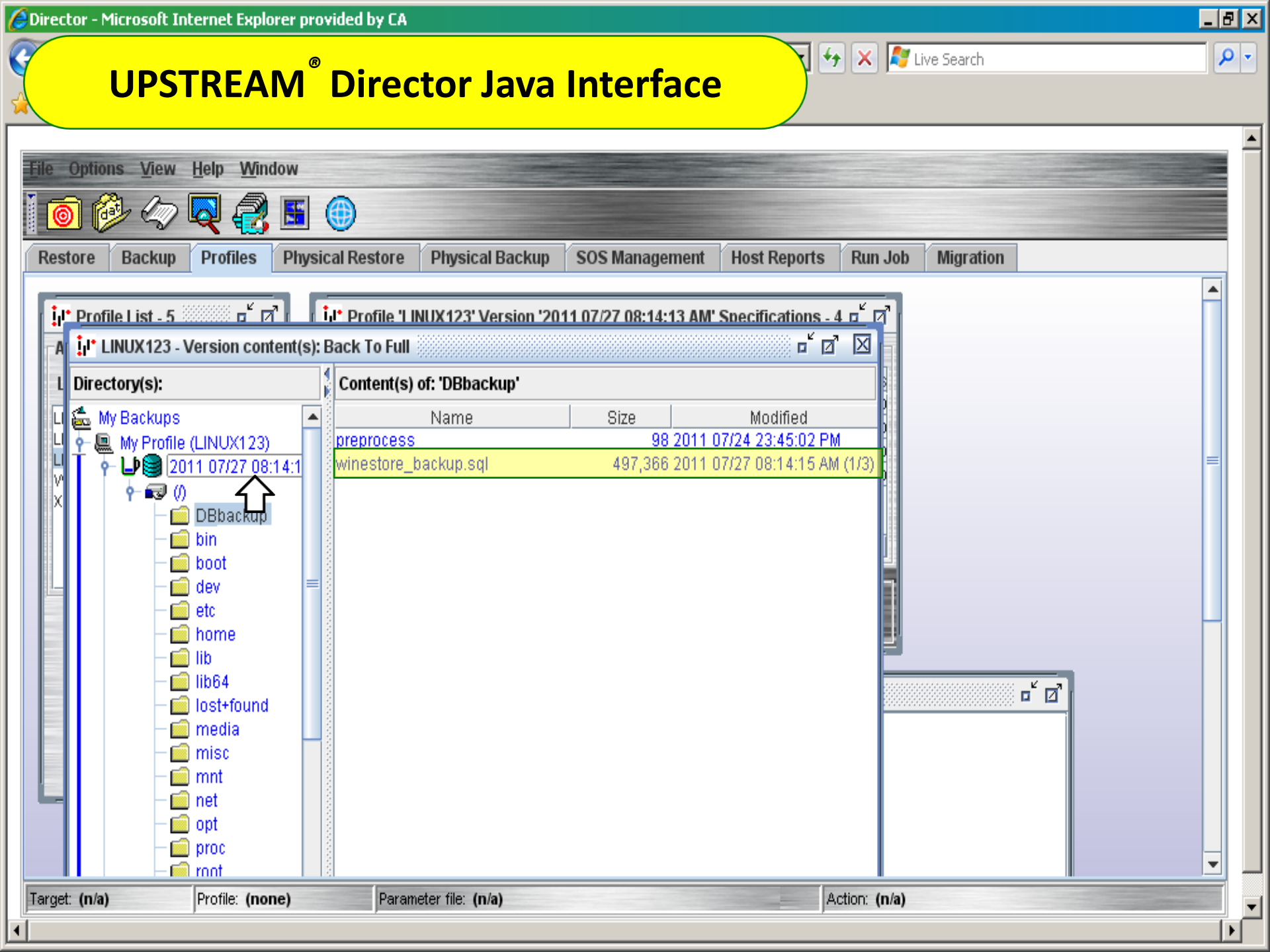

Director - Microsoft Internet Explorer provided by CA
UPSTREAM® Director Java Interface
File Options View Help Window
Restore Backup Profiles Physical Restore Physical Backup SOS Management Host Reports Run Job Migration
Profile
Directory(s):
My Backups
File(s):
Name Size Modified Attribu
object(s): 0
Set profile to WEB DB Server
LINUX123
Profile:
Search
Explore Snap Shot Collection
Add Exclude
Add directory
Add dir/w sub-dir(
Add file(s)
Filter...
Find...
Refresh
Specify restore to...
Target: (none)
Profile: (none)
Parameter file: 'Untitled'
Action: Restore

UPSTREAM® Director Java Interface

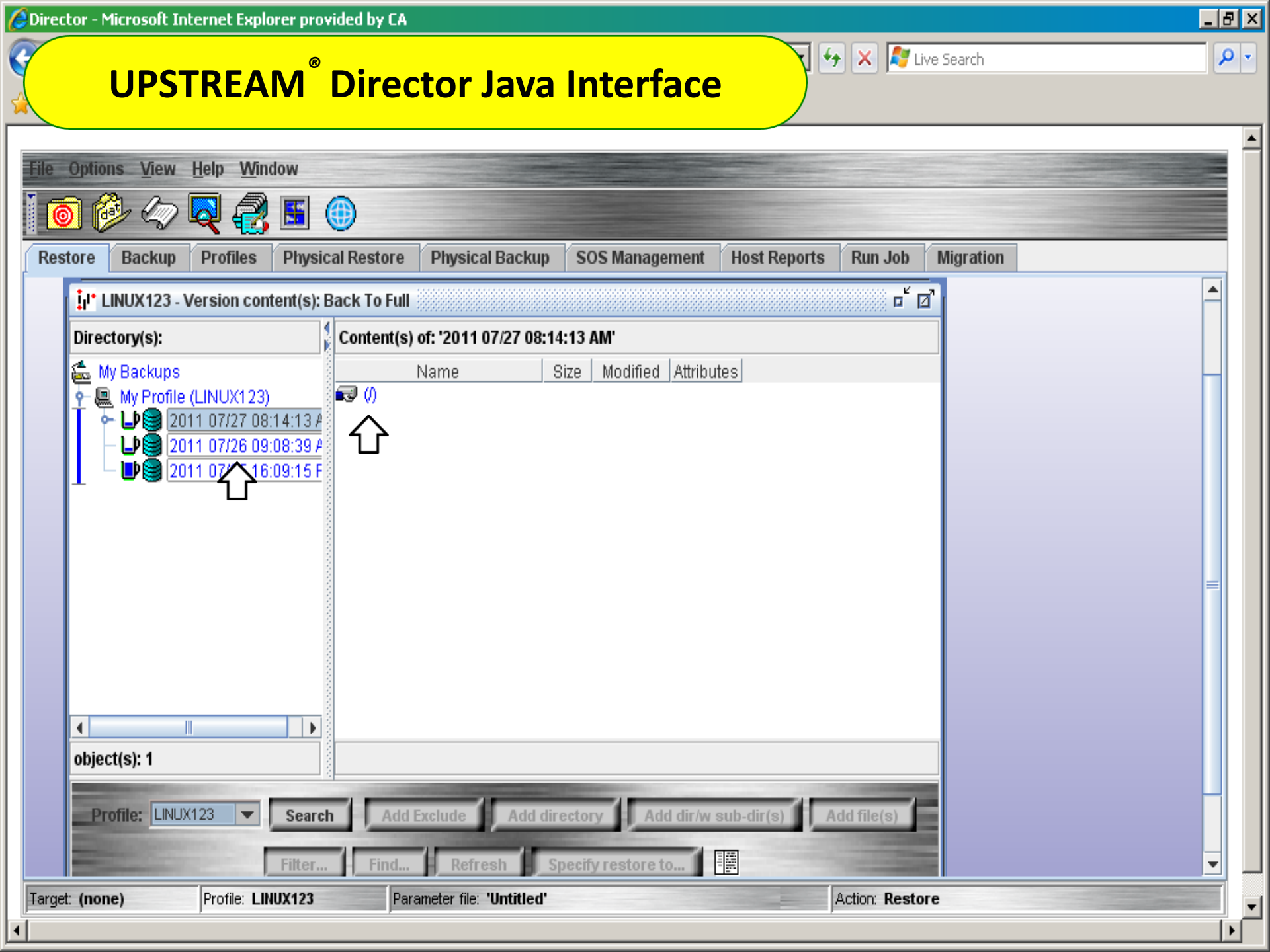


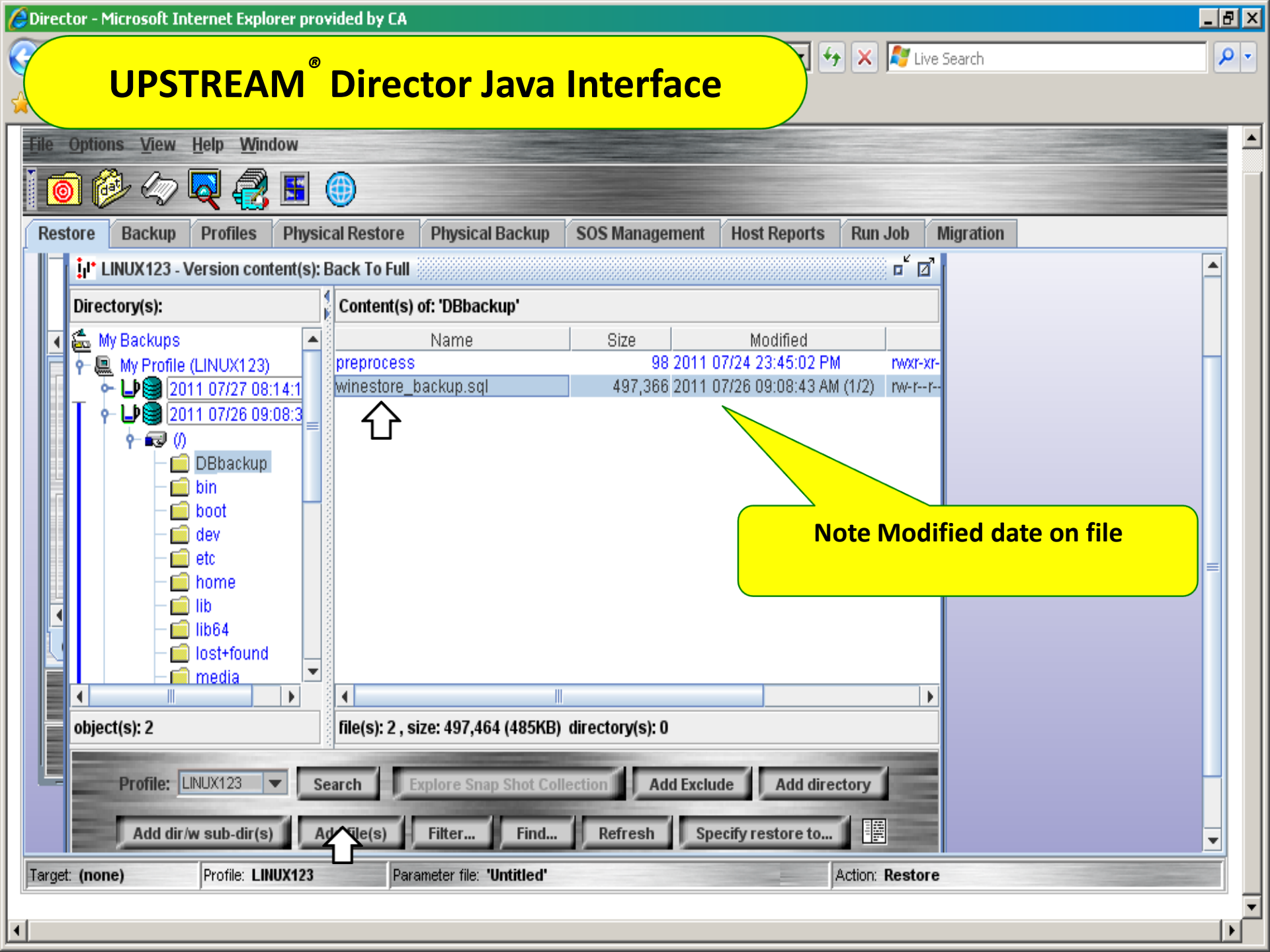

Director - Microsoft Internet Explorer provided by CA
UPSTREAM® Director Java Interface
File Options View Help Window
Restore Backup Profiles Physical Restore Physical Backup SOS Management Host Reports Run Job Migration
Profile List - 5
Profile 'LINUX123' Version '2011 07/27 08:14:13 AM' Specifications - 4
LINUX123 - Version content(s): Back To Full
Directory(s):
Content(s) of: 'DBbackup'
My Backups
My Profile (LINUX123)
2011 07/27 08:14:1
(/)
DBbackup
bin
boot
dev
etc
home
lib
lib64
lost+found
media
misc
mnt
net
opt
proc
root
Name
Size
Modified
preprocess
98 2011 07/24 23:45:02 PM
winestore_backup.sql
497,366 2011 07/27 08:14:15 AM (1/3)
Target: (n/a)
Profile: (none)
Parameter file: (n/a)
Action: (n/a)

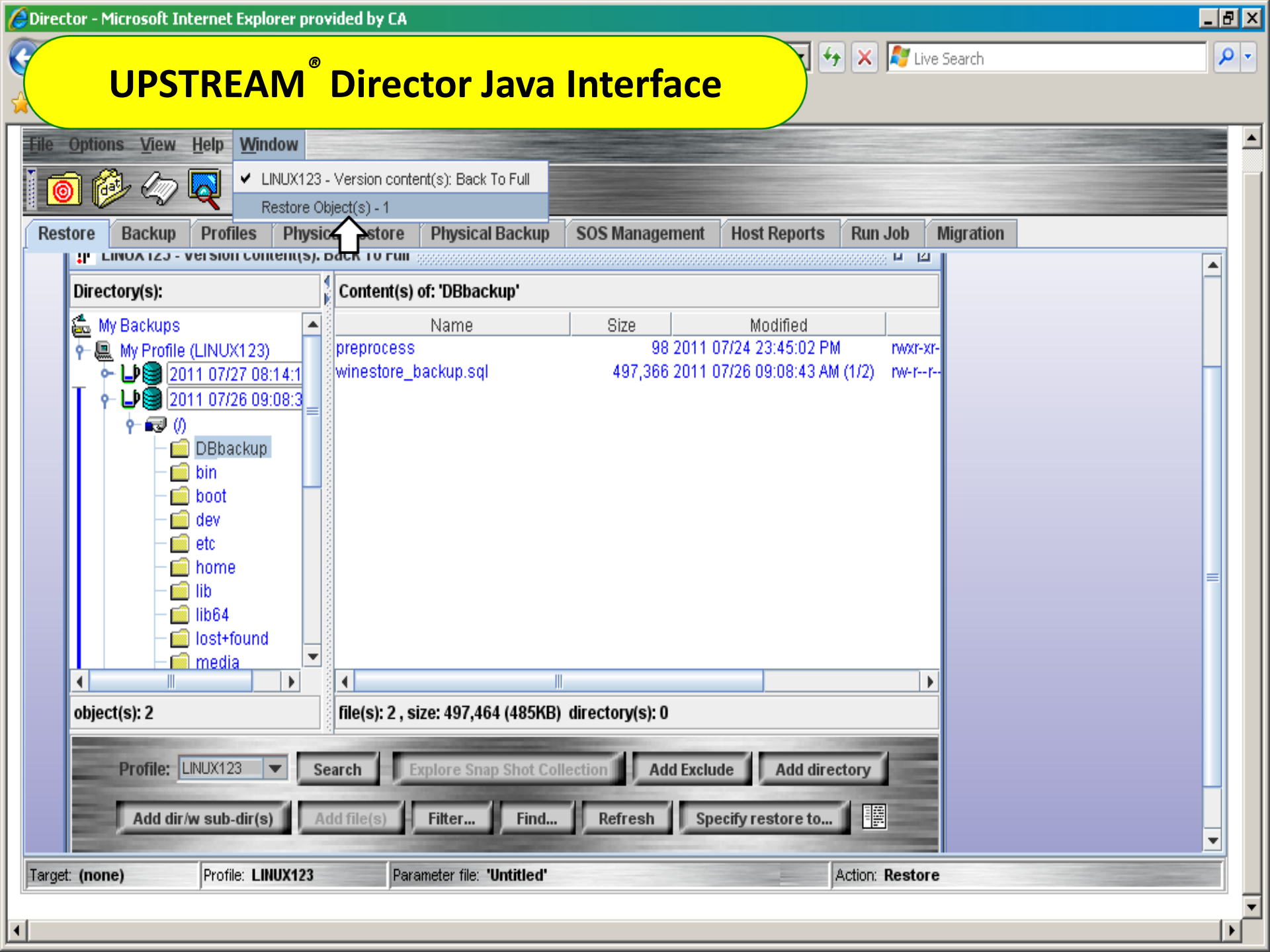

linux123.ca.com - PuTTY
FDR/UPSTREAM
File Action Remote Management Security Physical
F1=Help
Inquire/Restore for Profile LINUX123 From 07/27/11 08:14:13 Back to Full
Search Spec....[*
Restore To.....[
-Version Date- -Status/Size- -Version Date-
Files
07-27-11 08:14 Directory--> - -DBbackup
07-24-11 23:45 98 |-preprocess
07-27-11 08:14 497366 |-winestore_backup.sql
06-21-11 06:29 Directory--> + -bin
11-27-09 12:06 Directory--> + -boot
07-27-11 04:05 Directory--> + -dev
07-27-11 04:04 Directory--> + -etc
07-26-11 20:04 Directory--> + -home
06-20-11 20:52 Directory--> + -lib
06-24-11 04:03 Directory--> + -lib64
07-01-08 15:52 Directory--> + -lost+found
< Select for Restore >
< Select All Dirs. >
< Collapse Dir. >
< Collapse All Dirs. >
<Restore.. > <Backups.. > < Exit > < More.. > < PlugIn.. >
Using: '/opt/fdrupstream/upstream.cfg' (TCP/IP Link)
Access to UPSTREAM® functions
also available from server GUI

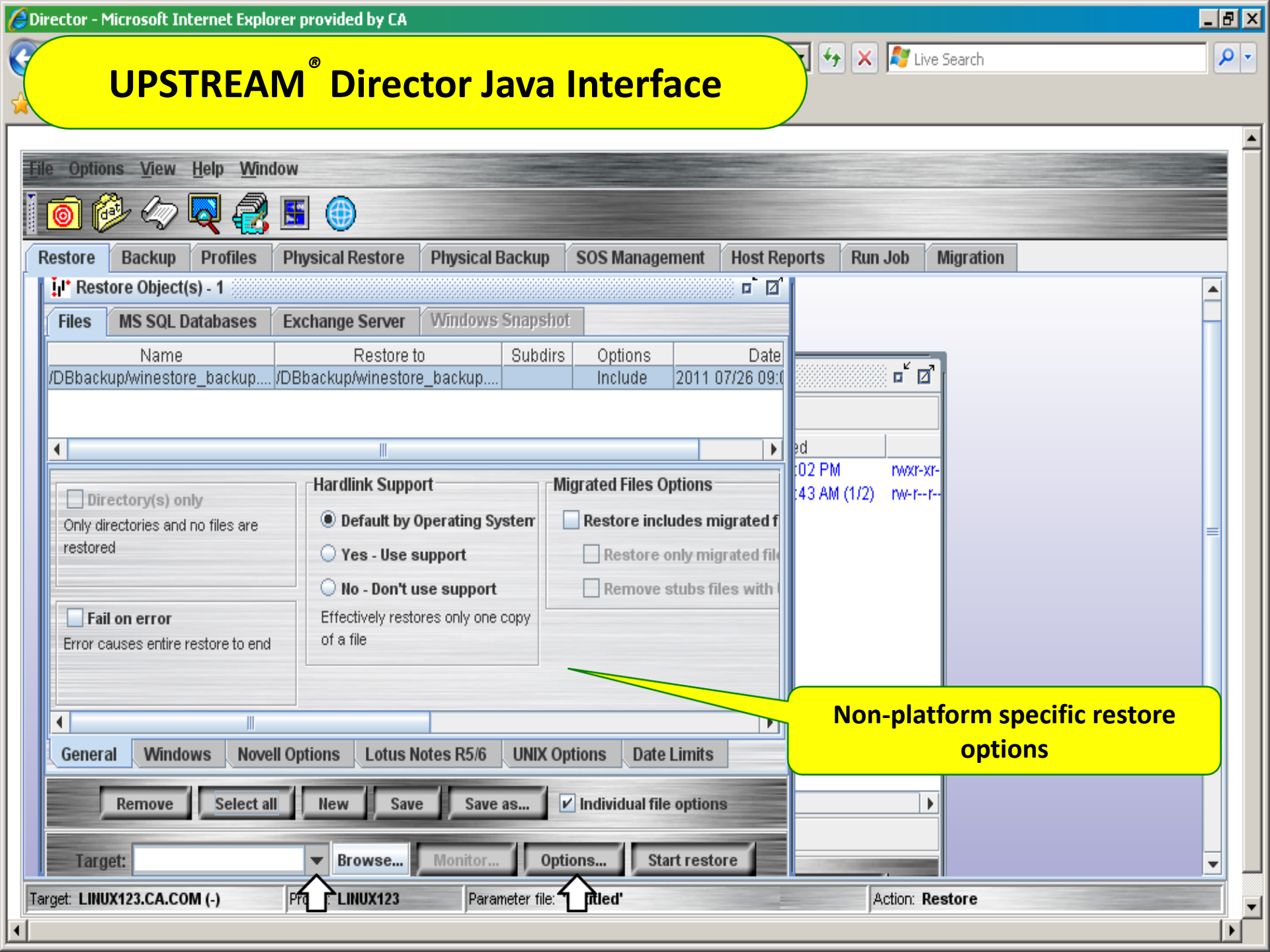

Director - Microsoft Internet Explorer provided by CA
UPSTREAM® Director Java Interface
File Options View Help Window
Restore Backup Profiles Physical Restore Physical Backup SOS Management Host Reports Run Job Migration
Profile List - 5
Profile 'LINUX123' Version '2011 07/27 08:14:13 AM' Specifications - 4
LINUX123 - Version content(s): Back To Full
Directory(s):
Content(s) of: 'DBbackup'
My Backups
My Profile (LINUX123)
2011 07/27 08:14:1
(/)
DBbackup
bin
boot
dev
etc
home
lib
lib64
lost+found
media
misc
mnt
net
opt
proc
root
Name
Size
Modified
preprocess
98 2011 07/24 23:45:02 PM
winestore_backup.sql
497,366 2011 07/27 08:14:15 AM (1/3)
Target: (n/a)
Profile: (none)
Parameter file: (n/a)
Action: (n/a)

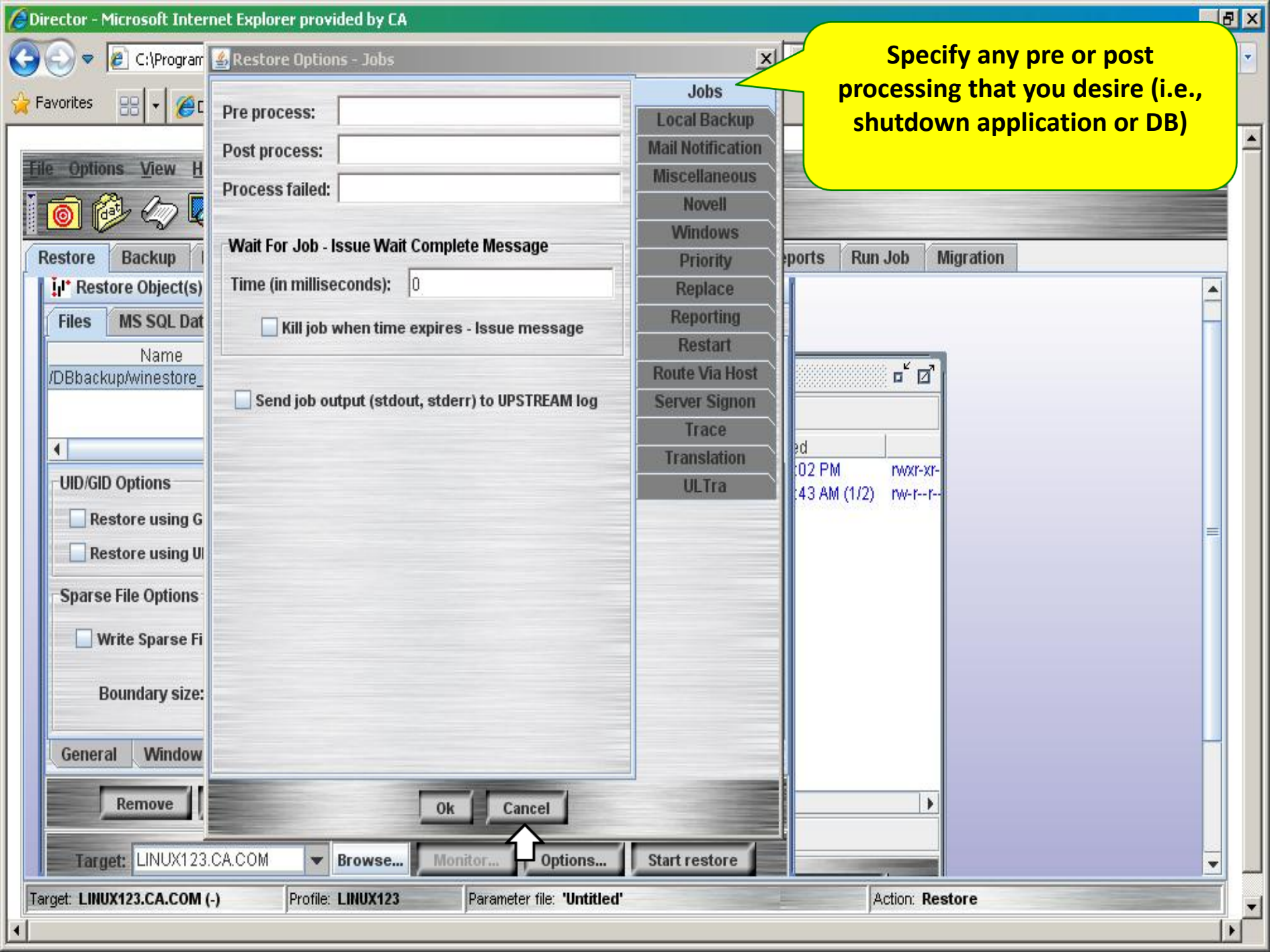
UPSTREAM® Director Java Interface

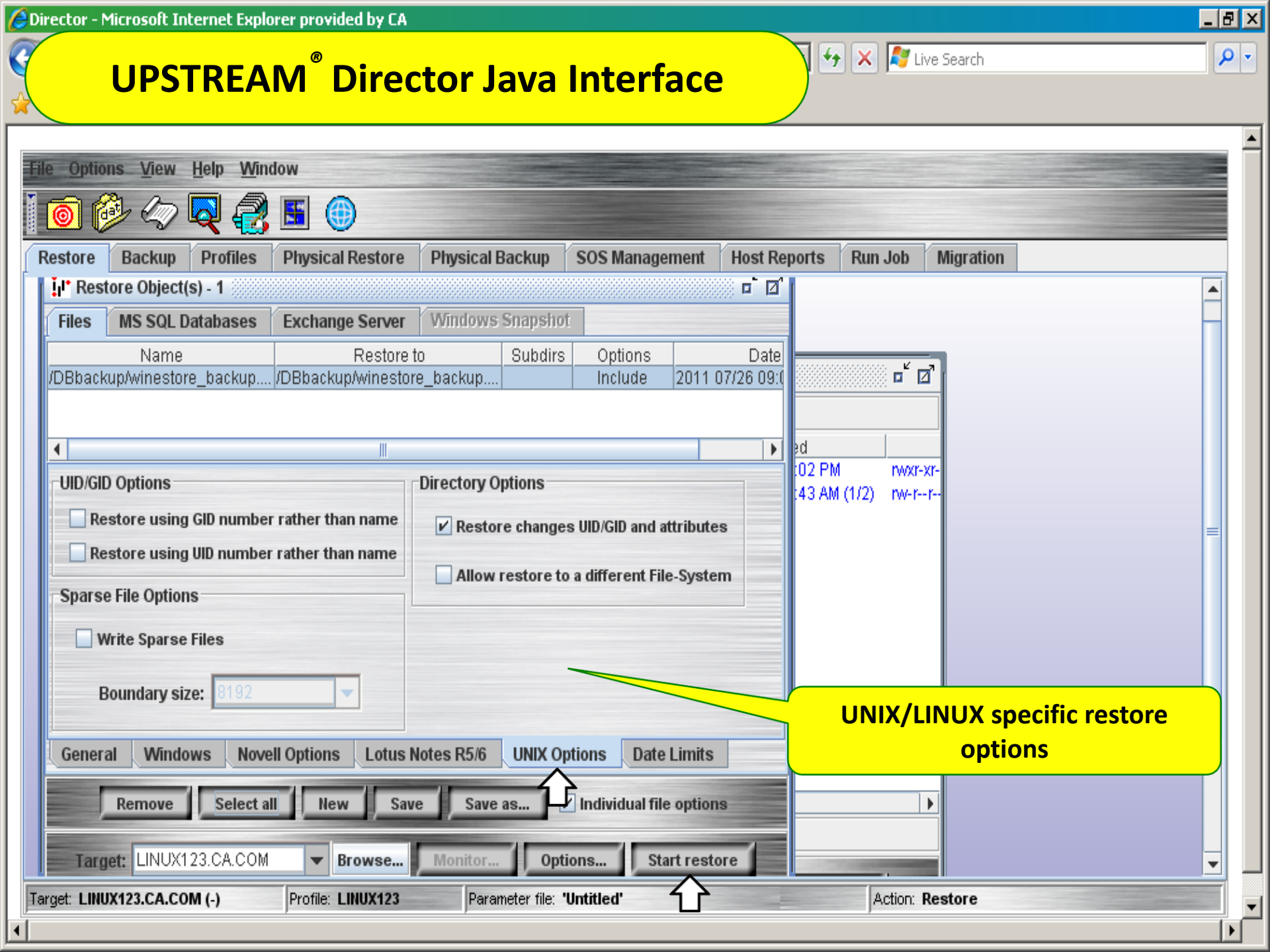



Director - Microsoft Internet Explorer provided by CA
UPSTREAM® Director Java Interface
File Options View Help Window
Restore Backup Profiles Physical Restore Physical Backup SOS Management Host Reports Run Job Migration
LINUX123 - Version content(s): Back To Full
Directory(s):
Content(s) of: 'DBbackup'
My Backups
My Profile (LINUX123)
2011 07/27 08:14:1
2011 07/26 09:08:3
(/)
DBbackup
bin
boot
dev
etc
home
lib
lib64
lost+found
media
Name Size Modified
preprocess 98 2011 07/24 23:45:02 PM rwxr-xr-
winestore_backup.sql 497,366 2011 07/26 09:08:43 AM (1/2) rw-r--r--
Note Modified date on file
object(s): 2
file(s): 2 , size: 497,464 (485KB) directory(s): 0
Profile: LINUX123
Search
Explore Snap Shot Collection
Add Exclude
Add directory
Add dir/w sub-dir(s)
Filter...
Find...
Refresh
Specify restore to...
Target: (none)
Profile: LINUX123
Parameter file: 'Untitled'
Action: Restore

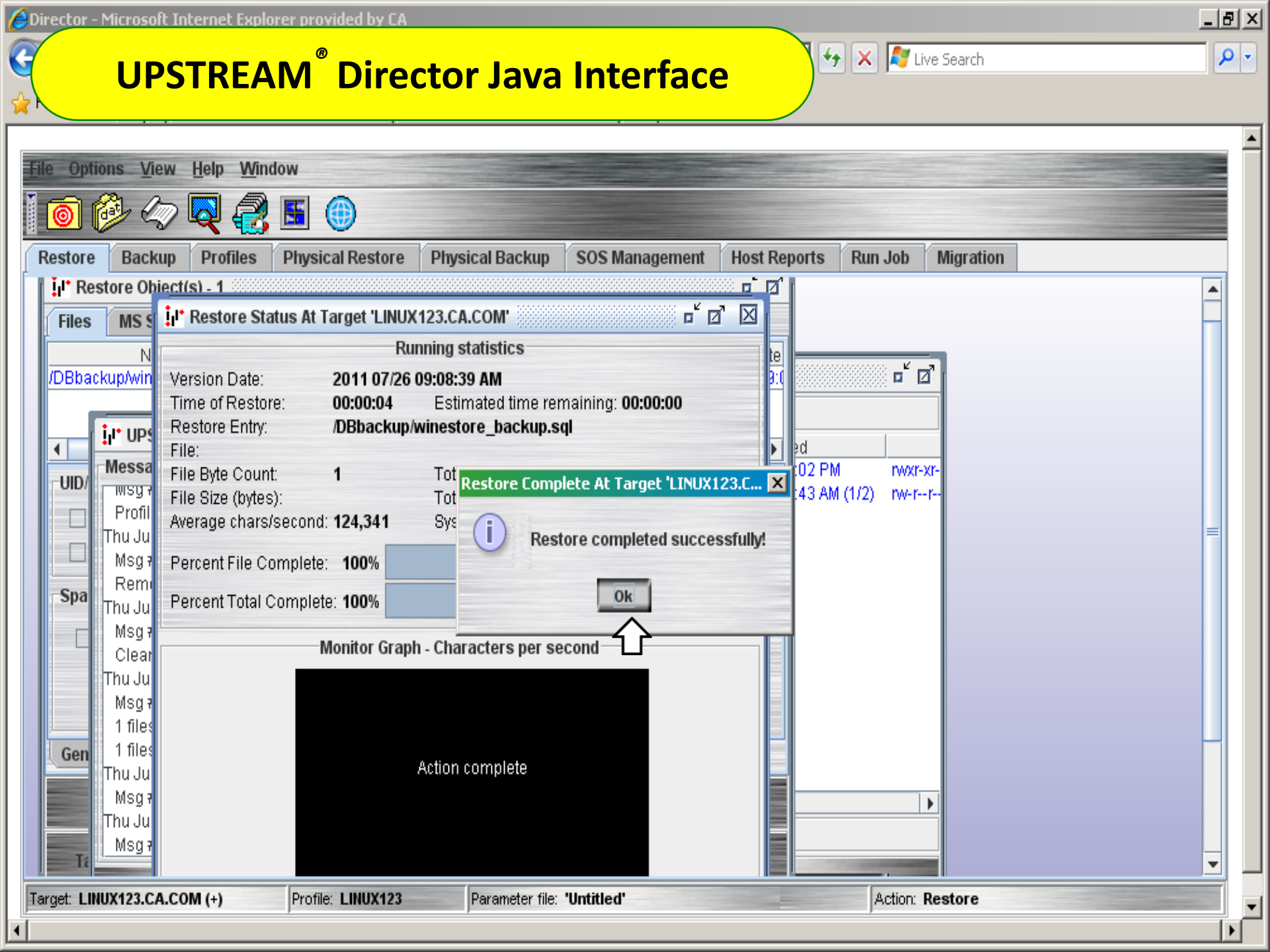

Director - Microsoft Internet Explorer provided by CA
UPSTREAM® Director Java Interface
File Options View Help Window
LINUX123 - Version content(s): Back To Full
Restore Object(s) - 1
Restore Backup Profiles Physical Backup SOS Management Host Reports Run Job Migration
Directory(s):
Content(s) of: 'DBbackup'
My Backups
My Profile (LINUX123)
2011 07/27 08:14:1
2011 07/26 09:08:3
(/)
DBbackup
bin
boot
dev
etc
home
lib
lib64
lost+found
media
Name Size Modified
preprocess 98 2011 07/24 23:45:02 PM rwxr-xr-
winestore_backup.sql 497,366 2011 07/26 09:08:43 AM (1/2) rw-r--r--
object(s): 2
file(s): 2 , size: 497,464 (485KB) directory(s): 0
Profile: LINUX123
Search
Explore Snap Shot Collection
Add Exclude
Add directory
Add dir/w sub-dir(s)
Add file(s)
Filter...
Find...
Refresh
Specify restore to...
Target: (none)
Profile: LINUX123
Parameter file: 'Untitled'
Action: Restore

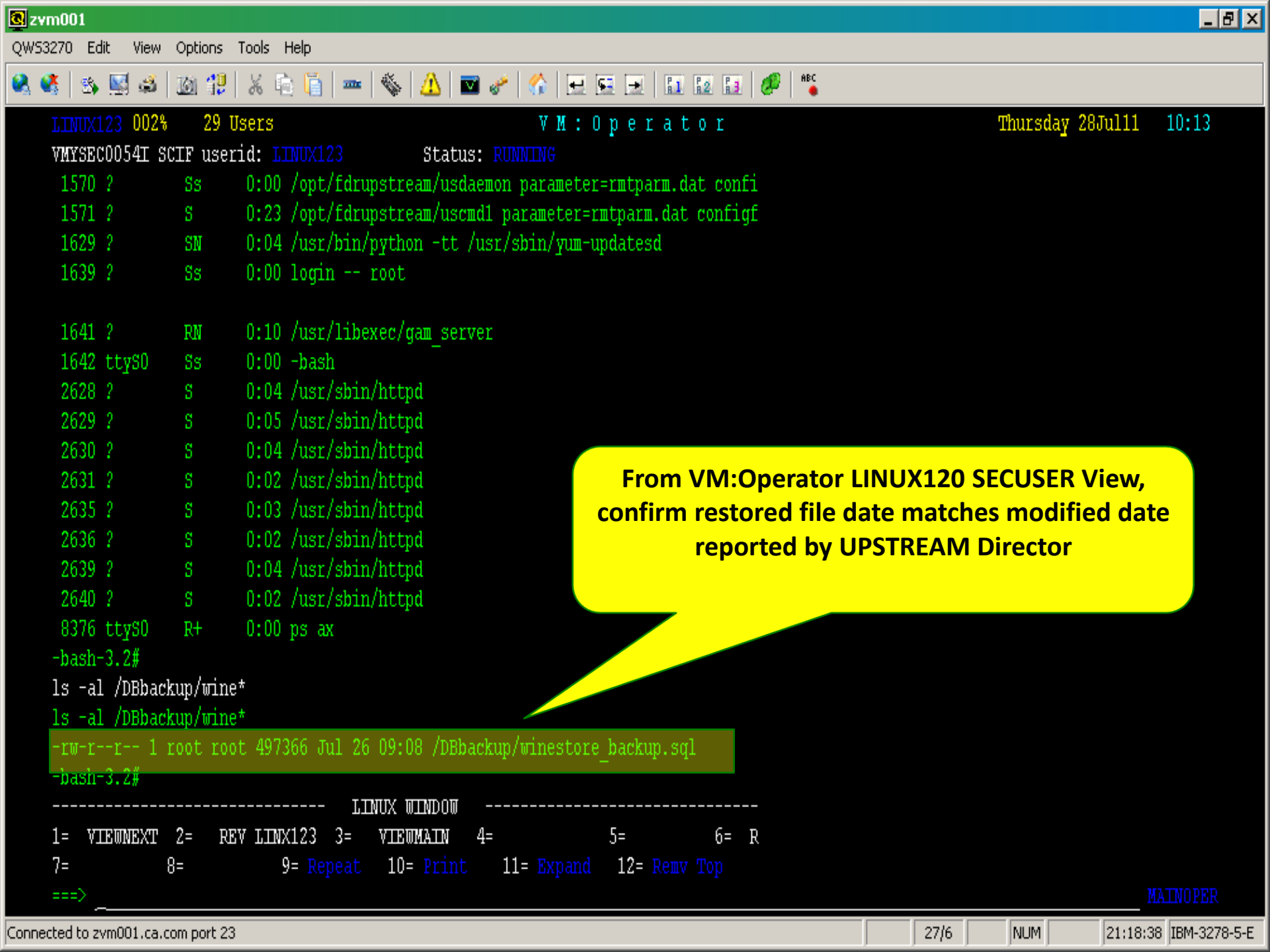

Director - Microsoft Internet Explorer provided by CA
UPSTREAM® Director Java Interface
File Options View Help Window
Restore Backup Profiles Physical Restore Physical Backup SOS Management Host Reports Run Job Migration
Restore Object(s) - 1
Files MS SQL Databases Exchange Server Windows Snapshot
Name Restore to Subdirs Options Date
/DBbackup/winestore_backup.... /DBbackup/winestore_backup.... Include 2011 07/26 09:
Directory(s) only
Only directories and no files are restored
Hardlink Support
Default by Operating System
Yes - Use support
No - Don't use support
Effectively restores only one copy of a file
Migrated Files Options
Restore includes migrated f
Restore only migrated fil
Remove stubs files with
Fail on error
Error causes entire restore to end
General Windows Novell Options Lotus Notes R5/6 UNIX Options Date Limits
Remove Select all New Save Save as... Individual file options
Target: Browse... Monitor... Options... Start restore
Target: LINUX123.CA.COM (-)
LINUX123
Parameter file:
Action: Restore
Non-platform specific restore options

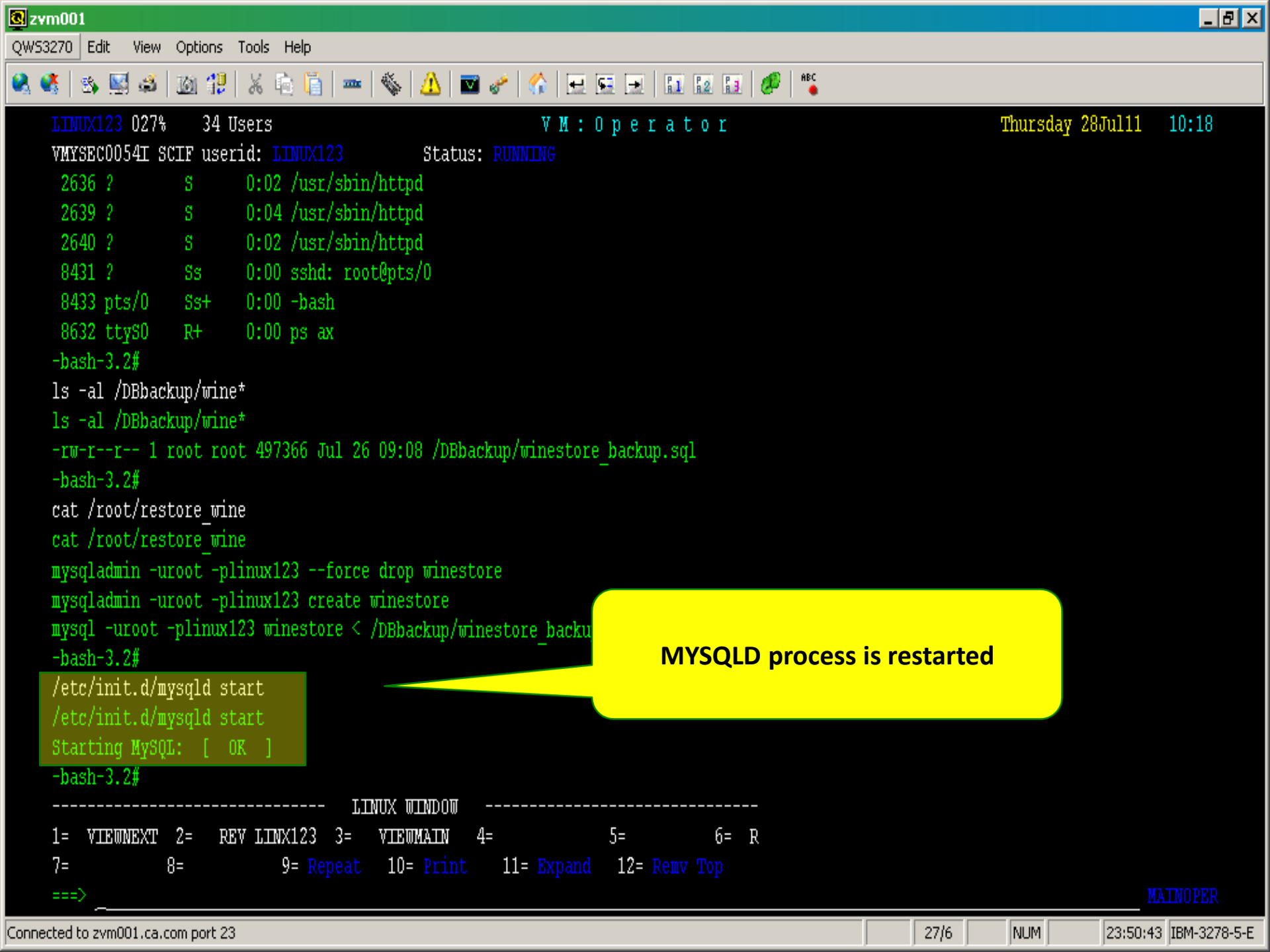

Director - Microsoft Internet Explorer provided by CA
Restore Options - Jobs
Specify any pre or post processing that you desire (i.e., shutdown application or DB)
Pre process:
Post process:
Process failed:
Wait For Job - Issue Wait Complete Message
Time (in milliseconds):
0
Kill job when time expires - Issue message
Send job output (stdout, stderr) to UPSTREAM log
Jobs
Local Backup
Mail Notification
Miscellaneous
Novell
Windows
Priority
Replace
Reporting
Restart
Route Via Host
Server Signon
Trace
Translation
ULTra
Ok
Cancel
Restore
Backup
Run Job
Migration
Restore Object(s)
Files
MS SQL Dat
Name
/DBbackup/winestore_
UID/GID Options
Restore using G
Restore using Ul
Sparse File Options
Write Sparse Fi
Boundary size:
General
Window
Remove
Target:
LINUX123.CA.COM
Browse...
Monitor...
Options...
Start restore
Target: LINUX123.CA.COM (-)
Profile: LINUX123
Parameter file: 'Untitled'
Action: Restore

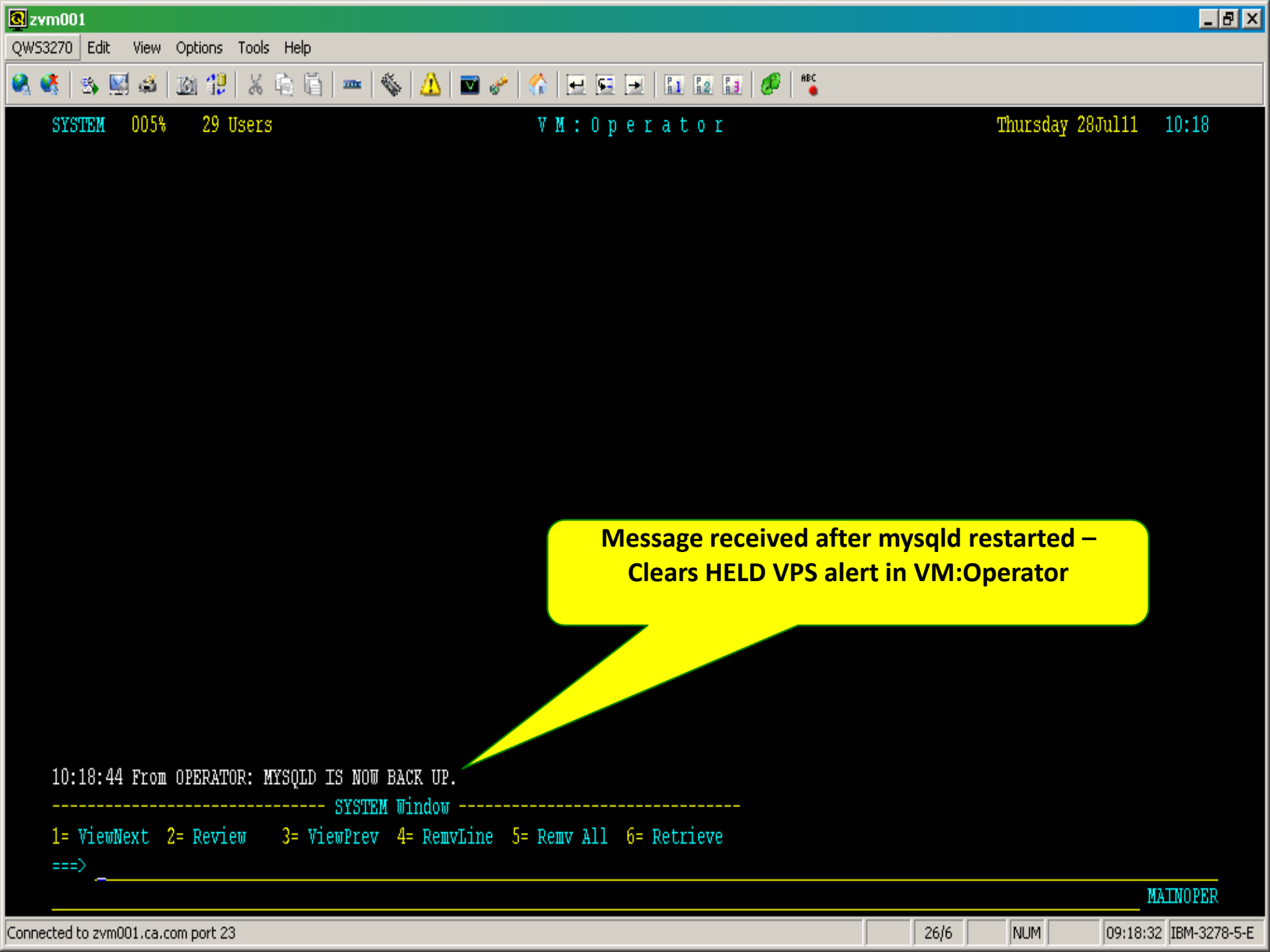

Director - Microsoft Internet Explorer provided by CA
UPSTREAM® Director Java Interface
File Options View Help Window
Restore Backup Profiles Physical Restore Physical Backup SOS Management Host Reports Run Job Migration
Restore Object(s) - 1
Files MS SQL Databases Exchange Server Windows Snapshot
Name Restore to Subdirs Options Date
/DBbackup/winestore_backup.... /DBbackup/winestore_backup.... Include 2011 07/26 09:
UID/GID Options
Restore using GID number rather than name
Restore using UID number rather than name
Directory Options
Restore changes UID/GID and attributes
Allow restore to a different File-System
Sparse File Options
Write Sparse Files
Boundary size: 8192
General Windows Novell Options Lotus Notes R5/6 UNIX Options Date Limits
Remove Select all New Save Save as... Individual file options
Target: LINUX123.CA.COM Browse... Monitor... Options... Start restore
Target: LINUX123.CA.COM (-) Profile: LINUX123 Parameter file: 'Untitled' Action: Restore
UNIX/LINUX specific restore options

UPSTREAM® Director Java Interface

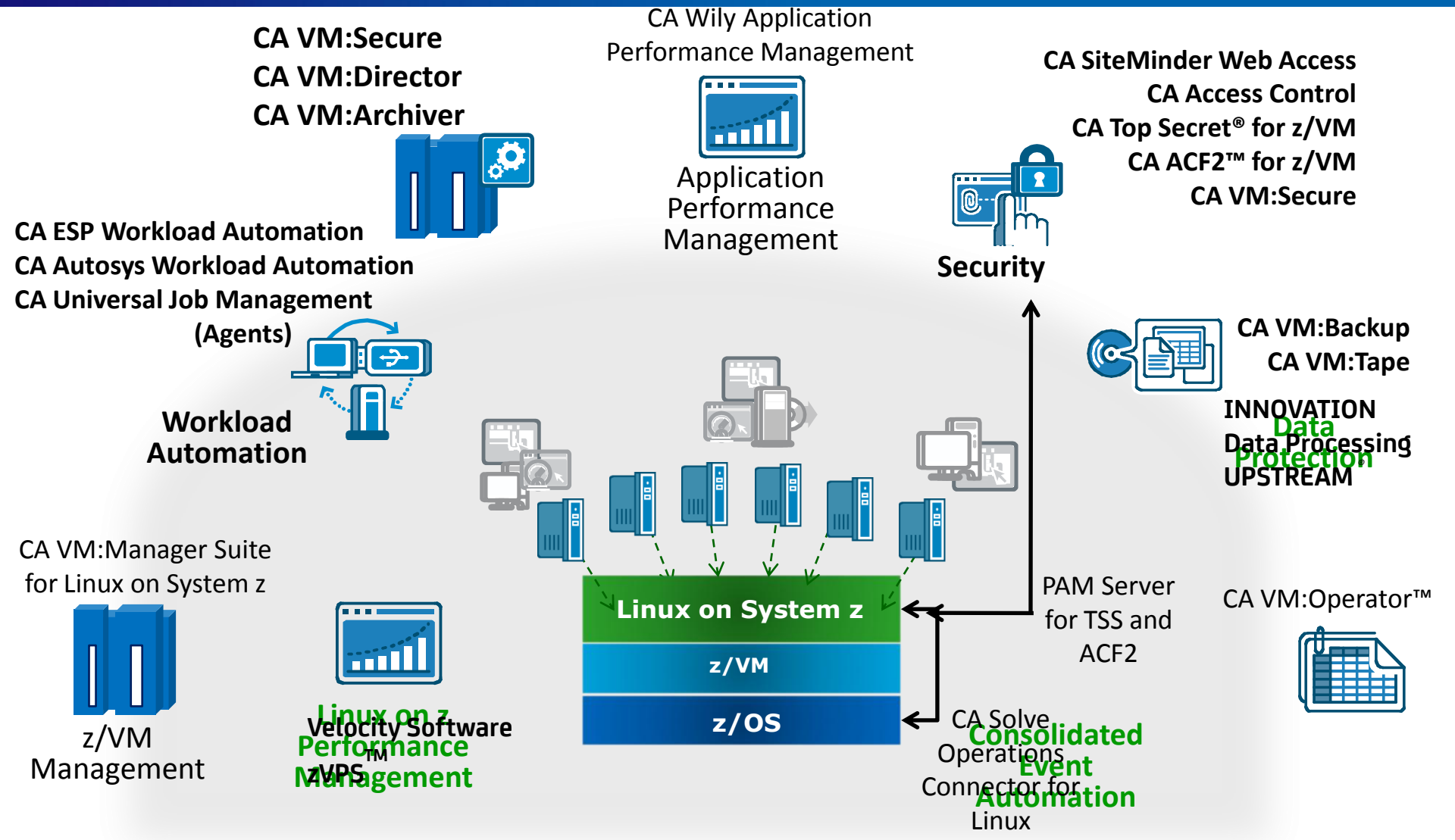



zvm001
QWS3270 Edit View Options Tools Help
LINUX123 002% 29 Users VM:Operator Thursday 28Jul11 10:13
VMYSEC0054I SCIF userid: LINUX123 Status: RUNNING
1570 ? Ss 0:00 /opt/fdrupstream/usdaemon parameter=rmtparm.dat confi
1571 ? S 0:23 /opt/fdrupstream/uscmd1 parameter=rmtparm.dat configf
1629 ? SN 0:04 /usr/bin/python -tt /usr/sbin/yum-updatesd
1639 ? Ss 0:00 login -- root
1641 ? RN 0:10 /usr/libexec/gam_server
1642 ttyS0 Ss 0:00 -bash
2628 ? S 0:04 /usr/sbin/httpd
2629 ? S 0:05 /usr/sbin/httpd
2630 ? S 0:04 /usr/sbin/httpd
2631 ? S 0:02 /usr/sbin/httpd
2635 ? S 0:03 /usr/sbin/httpd
2636 ? S 0:02 /usr/sbin/httpd
2639 ? S 0:04 /usr/sbin/httpd
2640 ? S 0:02 /usr/sbin/httpd
8376 ttyS0 R+ 0:00 ps ax
-bash-3.2#
ls -al /DBbackup/wine*
ls -al /DBbackup/wine*
-rw-r--r-- 1 root root 497366 Jul 26 09:08 /DBbackup/winestore_backup.sql
-bash-3.2#
LINUX WINDOW
1= VIEWNEXT 2= REV LINX123 3= VIEWMAIN 4= 5= 6= R
7= 8= 9= Repeat 10= Print 11= Expand 12= Remv Top
===>
MAINOPER
From VM:Operator LINUX120 SECUSER View, confirm restored file date matches modified date reported by UPSTREAM Director
Connected to zvm001.ca.com port 23
27/6
NUM
21:18:38
IBM-3278-5-E


zvm001
QWS3270 Edit View Options Tools Help
LINUX123 027% 34 Users V M : O p e r a t o r Thursday 28Jul11 10:18
VMYSEC0054I SCIF userid: LINUX123 Status: RUNNING
2636 ? S 0:02 /usr/sbin/httpd
2639 ? S 0:04 /usr/sbin/httpd
2640 ? S 0:02 /usr/sbin/httpd
8431 ? Ss 0:00 sshd: root@pts/0
8433 pts/0 Ss+ 0:00 -bash
8632 ttyS0 R+ 0:00 ps ax
-bash-3.2#
ls -al /DBbackup/wine*
ls -al /DBbackup/wine*
-rw-r--r-- 1 root root 497366 Jul 26 09:08 /DBbackup/winestore_backup.sql
-bash-3.2#
cat /root/restore_wine
cat /root/restore_wine
mysqladmin -uroot -plinux123 --force drop winestore
mysqladmin -uroot -plinux123 create winestore
mysql -uroot -plinux123 winestore < /DBbackup/winestore_backu
-bash-3.2#
/etc/init.d/mysqld start
/etc/init.d/mysqld start
Starting MySQL: [OK]
-bash-3.2#
LINUX WINDOW
1= VIEWNEXT 2= REV LINX123 3= VIEWMAIN 4= 5= 6= R
7= 8= 9= Repeat 10= Print 11= Expand 12= Remv Top
===>
MAINOPER
MYSQLD process is restarted
Connected to zvm001.ca.com port 23
27/6
NUM
23:50:43
IBM-3278-5-E


zvm001
QWS3270 Edit View Options Tools Help
SYSTEM 005% 29 Users
V M : O p e r a t o r
Thursday 28Jul11 10:18
Message received after mysqld restarted –
Clears HELD VPS alert in VM:Operator
10:18:44 From OPERATOR: MYSQLD IS NOW BACK UP.
SYSTEM Window
1= ViewNext 2= Review 3= ViewPrev 4= RemvLine 5= Remv All 6= Retrieve
===>
MAINOPER
Connected to zvm001.ca.com port 23
26/6
NUM
09:18:32
IBM-3278-5-E

The CA Solution Portfolio



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Interested in Seeing More?

Join us at the CA Technologies Booth in the Share Technology Exchange for a closer look!

Also, visit the CA Linux Management for Mainframe web portal at:

http://www.ca.com/us/mainframe-linux.aspx

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CA VM:Manager Suite for Linux on System z *new releases*

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CA VM:Manager™ Suite for Linux on System z

New releases of CA z/VM products simplify environment

Security

CA Top Secret® for z/VM
CA ACF2™ for z/VM
CA VM:Secure

Disk Storage Assets

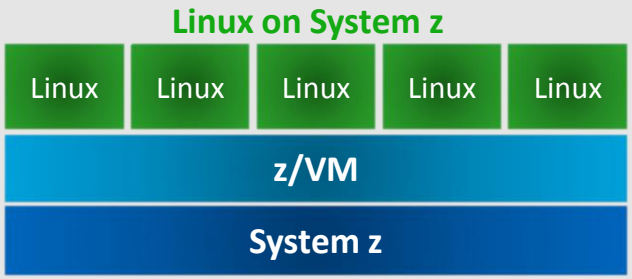
CA VM:Account™
CA VM:Director™

Storage Backup/Recovery

CA VM:Backup™
CA VM:Archiver

Resource Chargeback

CA VM:Account™



Performance Tuning

CA Explore® Performance Management for z/VM

CA VM:Operator™

Operations Management

CA VM:Operator™
CA VM:Schedule™
CA VM:Spool™
CA VM:Sort™
CA VM:Batch™

Provisioning

CA VM:Director™
CA VM:Secure
CA VM:Archiver™

Tape Management

CA VM:Tape™
CA Dynam/T for z/VM

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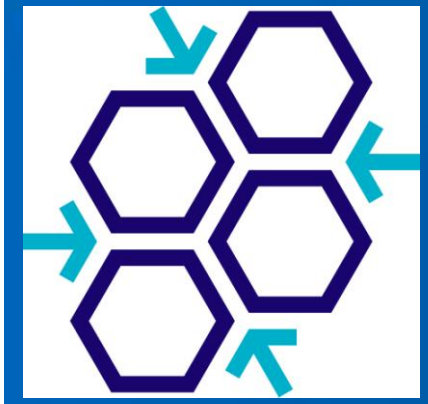
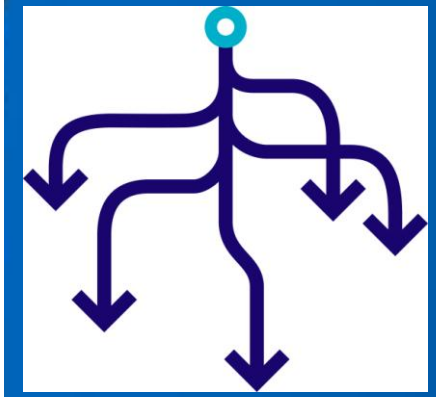
CA z/VM solutions and Mainframe 2.0
reduce complexity – speed implementation



standardize on IBM VMSES/E to install and service all CA z/VM products

- industry standard procedures reduce "experience pool" requirements
- consistent look and feel enables products to be managed without a significant skills investment
- common procedures for all products reduce complexity, speed implementation



CA Mainframe VM Product Manager

- install and maintain products in single library, deploy wherever needed
- automatic provisioning of servers with CA VM:Secure or CA VM:Director

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infrastructure enhancements

common code infrastructure improvements:

- **additional products ported to exploit CA VM Common Nucleus collection of services and routines**
- **single z/VM object directory reader program called by all products requiring directory look-up services**

using common code across products enables CA Technologies to deliver new features, enhancements, and problem solutions more quickly and efficiently

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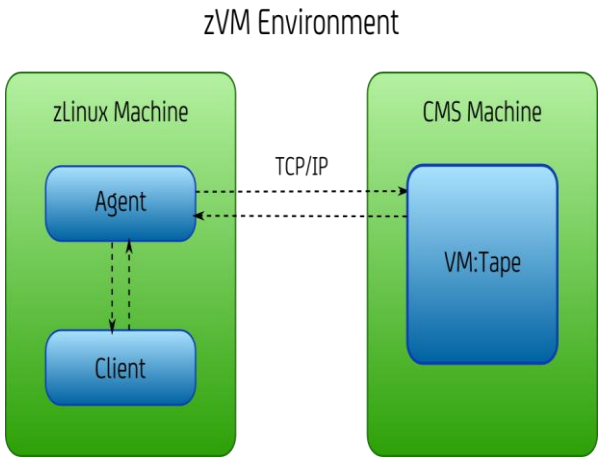
CA VM:Tape Linux on System z Interface features

- Exploit VM:Tape functionality in Linux applications
- Mount tape from Linux on System z
- Hardware support via IBM Linux kernel driver
- TCP/IP used for Linux to VM:Tape communication
- Shipped in standard RPM package



- Centralized tape management on Linux guest that does not expose sensitive interfaces (such as VMCP) to regular users
- Regular (non root) users are able to mount tapes
- After successful mount there are corresponding devices in /dev owned by the user who issued the mount
- Provides authorization handling for both mounted and saved tapes

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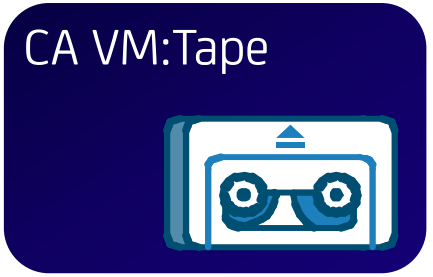
Additional CA VM:Tape enhancements



MOUNT command enhancement

- Use new user exit USREXIT9 to retrieve information about tape drive
- Enables operators to make decisions about automation and action routines

MOUNT and CANCEL message enhancements

- Real device address added to messages 0014I, 0051T, 0100I to enhance their use for automation purposes

VMTAPE QUERY enhancements

- QUERY VOLUME command displays additional information about tapes
- Display information about deleted tapes and tapes not in TMC if maintained in IBM or STK robotic tape subsystem

QUERY command authorization change

- OPERATOR authorization no longer required for QUERY, QUERY TAPES, and QUERY REQUESTS
- Users can obtain information about pending MOUNT and ALLOCATION requests

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CA VM:Secure enhancements

VMCIPHER and file encrypting logic and configuration of RC2 encryption removed

- Promotes use of stronger encryption algorithms to improve security for sensitive data
- Encrypt data using DES, Triple DES, and AES is retained

VLAN rules support

- Control access to Guest LANs and virtual switches
- Make access requests explicitly using COUPLE command or implicitly by defining value for LAN operand on NICDEF CP Directory statement
- COUPLE rule definition replaces GRANT operand on a SET VSWITCH or SET LAN command
- For a VLAN-aware virtual switch, set of VLAN ID values may be defined to restrict access to specified IEEE VLANs
- COUPLE RULE option grants PROMISCUOUS mode access for special purpose network debugging programs

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additional CA VM:Manager Suite enhancements

CA VM:Account

- Toleration support for CPU type codes
- Cost table support for switch class devices

CA VM:Archiver

- SYSID resolution
- Additional linemode command
- Additional parameters passed to VMAEXIT1

CA VM:Backup

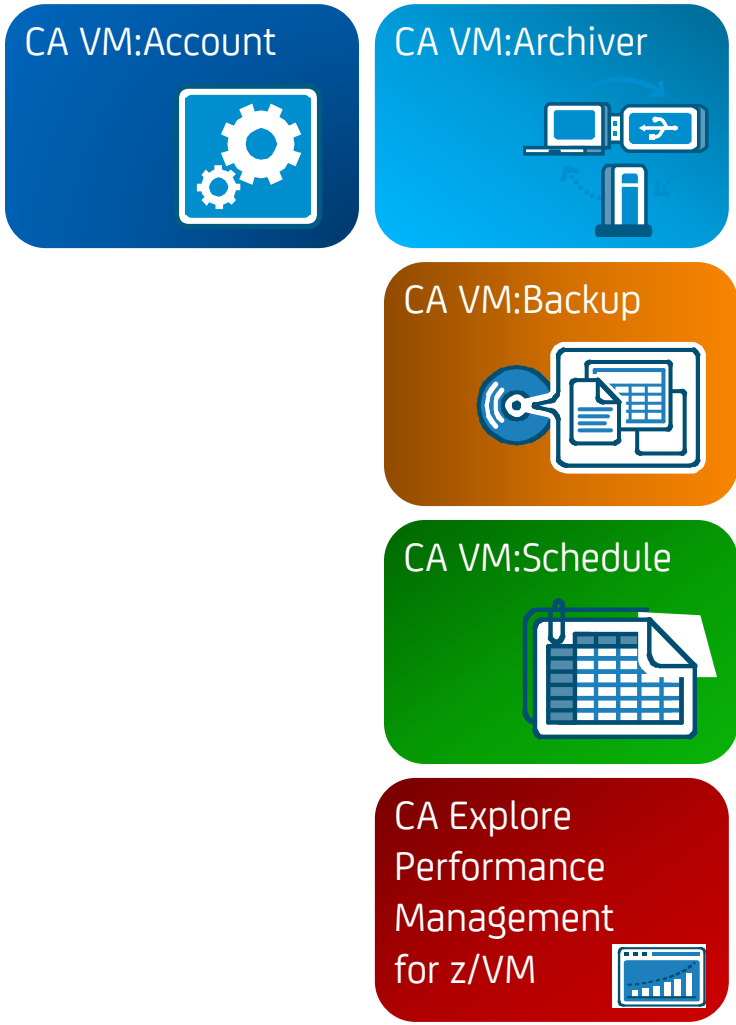
- Option EDRSUP default set to ON
- CA VM:Backup HiDRO Feature encryption support

CA VM:Schedule

- Passphrase and DMSPASS/DMSPWCHK support enables z/VM logon password phrases of up to 200 characters

CA Explore Performance Management for z/VM

- Data collection via IBM standard monitor records



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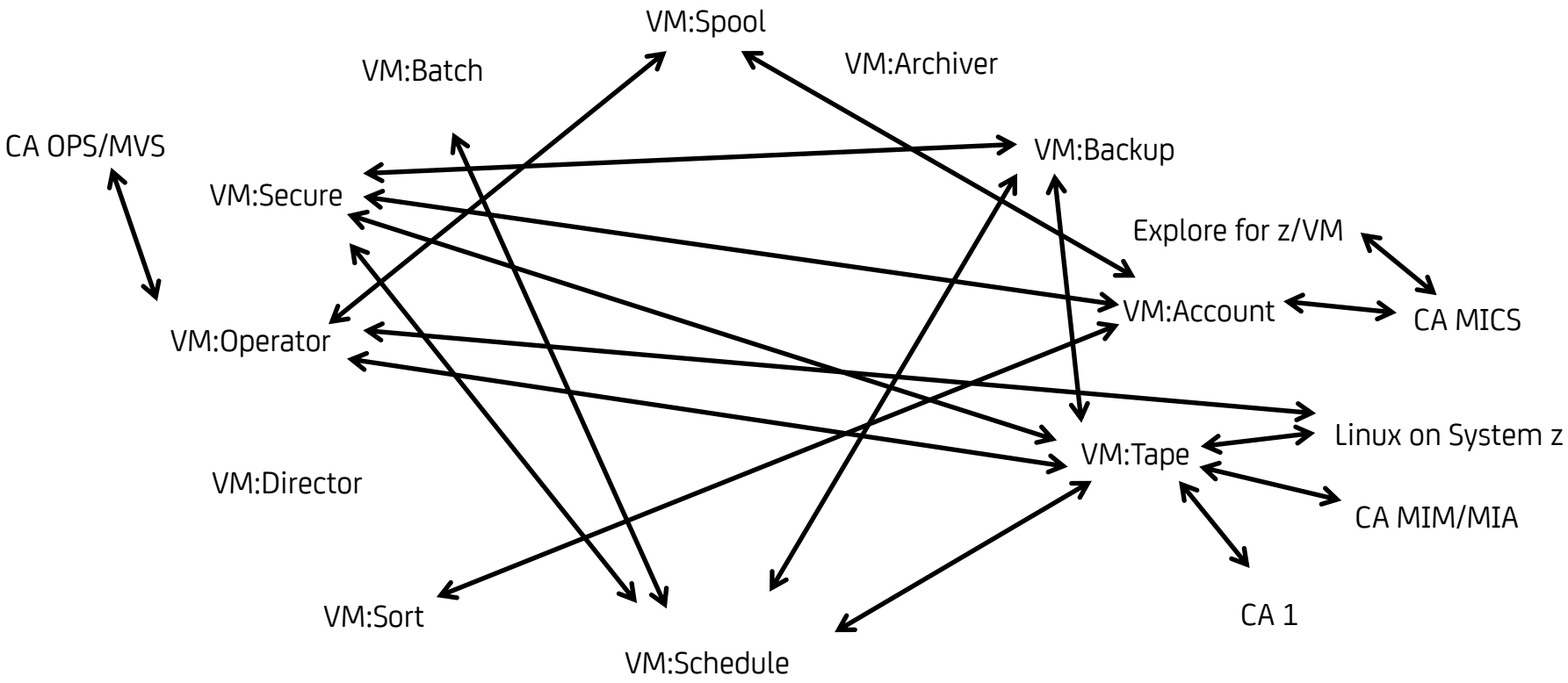
CA VM:Manager Suite for Linux on System z
provides extensive integration



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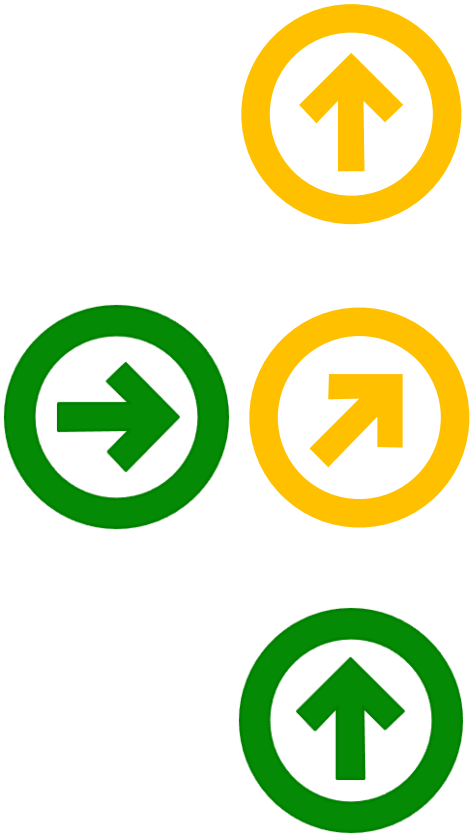
Roadmap Overview

- Day One support for z/VM 6.x.x and future releases
- Day One support for z/VM Single System Image, plus enhancements to allow exploitation of Single System Image architecture
- Deliver remaining products in IBM VMSES/E format in support of CA's Mainframe 2.0 strategy
  - CA Dynam/T Tape Management for z/VM
  - CA VM:XMENU
  - CA VTERM
- Deliver enhancements to improve Linux guest management
- Deliver enhancements in response to customer demand



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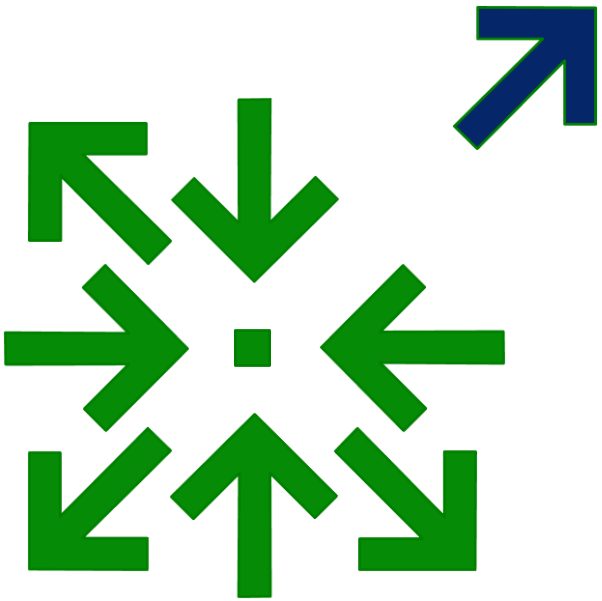
Improve capability to manage Linux on System z guests



- Integration of new CA offerings with existing z/VM product suite to enhance management of z/VM and Linux on System z environments
  - modernize the user interfaces
  - simplify reporting capabilities
  - Automate and simplify Linux on System z provisioning
- CA VM:Operator enhancements to allow simpler and more secure automated management of Linux on System z guests

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Questions ???

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