

# Powerful, Easy to Use Cloud Management for Linux on IBM Z

GSE UK Conference 2018

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# Agenda

- **Why zPRO?**
- **z Cloud Management at its Finest – zPRO Highlights**
- **zPRO in Education of z/VM and Linux**
- **Future / In Progress**

# zPRO backstory

**It is all about *zPRO!***

***Welcome back to Simple Yet Powerful***

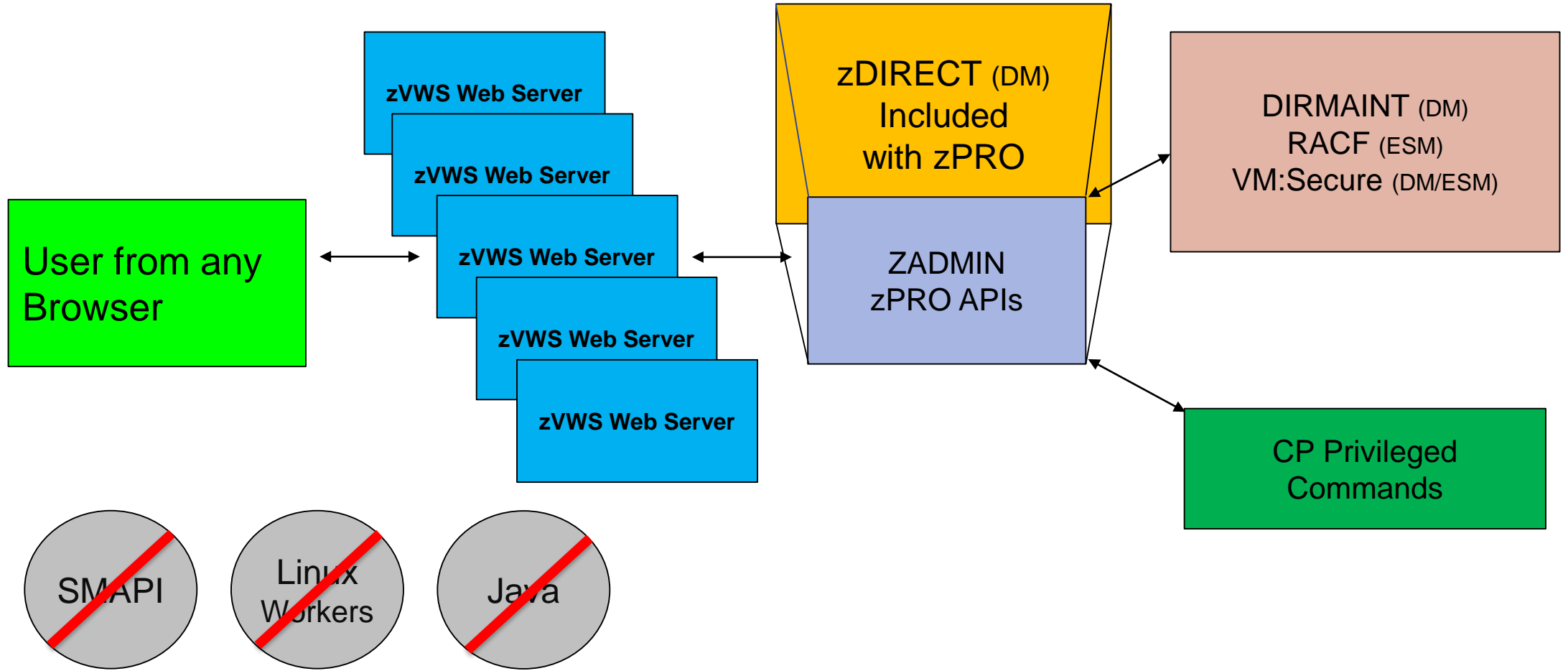
Simple, Fast, Lightweight, Powerful and Reliable

This is the premise of zPRO and our  
commitment to you

# Simple? Really?!

- **zPRO leverages the *strengths* of *z/VM***
  - All the great tools in z/VM, CMS, REXX, Pipelines, networking capabilities, memory management, communications – we use it all and more
  - Very dynamic and easily *extensible*
    - zPRO allows you to define exits and additional APIs (in REXX), process-windows (called DIRMODELS) and more, to fit your specific needs
    - Velocity Support will gladly assist with anything you need

# zPRO in a Picture



# zPRO Highlights

- **Enables quick solutioning – both in speed and time**
  - zPRO makes managing Linux on z *very easy* for systems programmers, end-users, operations, management – really anyone. It allows you to designate privileges to other users to build and manage their own servers within the guidelines and scope established by YOU
- **zPRO Focuses on Three Main Cornerstones:**
  - Simplifying access and acceptance of the mainframe for new, younger and possibly less skilled team members through a browser-based interface
  - Providing a cloud-based facility for mainframe training, especially around cloud and guest management
  - Simplifying daily tasks by empowering end-users to manage their own guests while still controlling authorities and resources

# zPRO Highlights

- **Utilizes the zVWS *native* z/VM web server**
  - UI is completely browser-based
  - No changes required in web server to support zPRO
  - **Installs in about 10 minutes (usually much LESS!)\***
- **Supports common directory/security management**
  - zDIRECT with or without RACF
  - DIRMAINT with or without RACF
  - VM:Secure (CA)
- **Authentication support**
  - VM / LDAP / AD / your own

# zPRO Highlights

- **z/VM Cloud Server Management**
  - Clone (provision), modify, start, stop, delete servers
    - Linux w/Oracle, Websphere, etc – any z/VM guest
  - Define server expirations
    - Useful for LAB, test or proof-of-concept servers
  - Selective resource controls and quota management
  - SSI / LGR (live guest relocation) support
  - Enterprise view of servers\*
    - View servers on other nodes, even if not in an SSI cluster



# zPRO Highlights

- **Exceptionally Extensible**
  - Can define and “plug in” site-defined services
- **Give access to non-Sysprog users/groups**
  - No special z/VM authority required for users/groups
  - Define resource boundaries for groups and users
    - Each group and user can use the same or specific
      - Resource Pools
      - Resource Limits – even by server
  - Users manage *their own* resources and servers
    - Can clone and manage their own servers how and whenever they need
      - zPRO ADMIN sets who can do what

# zPRO Highlights

- **No z/VM system knowledge needed**
  - Fills in for any lack of z/VM skills
    - Do *YOU* need to be concerned about that?!
- **Reduces time**
  - z/VM System Programmer time is freed up
  - Self-service model allows others to provision and manage with defined controls/authorities
- **Empowers others**
  - Unix/Linux admins, Application groups, Operations and more
- *The Systems Programmer (and management) still retain control*

# zPRO Virtual Demo

<https://www.velocitysoftware.com/zPROdemo.pdf>

- PDF contains an overview of zPRO and detailed screen-shots showing some of the major functions and benefits

# zPRO Initial View

VELOCITY SOFTWARE Self Service VSIVM4 zPRO V3110 2018-07-11 JAMES Settings

Self Service > zPRO

Server List for JAMES (ADMIN view)

Resource Usage

Group	User	Servers	VCPUs	VStor(MB)	DASD	MDisks	IPs	OSAs	FCPs
ADMIN	ADMIN	3	3	560	0	3	0	0	0
ADMIN	JAMES	12	12	2752	0	19	5	0	0
ADMIN	KATHADM	0	0	0	0	0	0	0	0
ADMIN	totals	15	15	3312	0	22	5	0	0
ADMIN	limits	unlim	unlim	unlim	unlim	unlim	unlim	unlim	unlim
BDRGROUP	ZBDRPROF	0	0	0	0	0	0	0	0
BDRGROUP	ZPROBDR	0	0	0	0	0	0	0	0
BDRGROUP	totals	0	0	0	0	0	0	0	0
BDRGROUP	limits	200	120	81920	unlim	unlim	unlim	unlim	unlim
BLAKE	BLAKE	0	0	0	0	0	0	0	0
BLAKE	totals	0	0	0	0	0	0	0	0
BLAKE	limits	4	4	18192	100	200	30	0	20
DEMO	SELFSERV	0	0	0	0	0	0	0	0
DEMO	totals	0	0	0	0	0	0	0	0

# zPRO Controls & Guest Ownership

The screenshot displays the Velocity Software Self Service interface for user JAMES. The main content area shows a list of virtual machines with their current owners. Two modal windows are open: 'Set Virtual Machine Owner' and 'Add a Minidisk'. The 'Set Virtual Machine Owner' window shows a table of VMs, with 'DEMOBLK' selected and its owner set to 'BARTON'. The 'Add a Minidisk' window shows configuration options for a new disk on the 'DEMOBLK' server.

**Self Service** | Auto Arrange | Close All | Enterprise | Create Servers | Manage Servers & Resources | Clone a Minidisk | Set Virtual Machine Owner | Add a Minidisk | Change a Minidisk | Display/Modify owned servers | Change Virtual Machine CPUs | Change a Server's Password | View Resources | Manage Users | Reports

**Set Virtual Machine Owner**

Sel	Virtual Machine	Owner
<input type="checkbox"/>	BCLOUD	unassigned
<input type="checkbox"/>	CAVMM01	unassigned
<input type="checkbox"/>	CAVMM02	unassigned
<input type="checkbox"/>	CENTFBA	unassigned
<input type="checkbox"/>	CENTOS66	unassigned
<input type="checkbox"/>	CONSERVE	unassigned
<input type="checkbox"/>	CONSPORT	unassigned
<input type="checkbox"/>	DAVEL2	unassigned
<input checked="" type="checkbox"/>	DEMOBLK	BARTON
<input type="checkbox"/>	DEMOLNX	unassigned
<input type="checkbox"/>	DONTUSE	unassigned
<input type="checkbox"/>	DRADEV	unassigned

Buttons: Assign to JAMES | Choose Owner | Unassign

**Add a Minidisk**

Add to Server: DEMOBLK  
Virtual Address:   
Device Type: 3390  
Cylinders / Blocks:   
Access Mode: MR  
Process Request

**Change a Server's Password**

User Id: DEMOBLK  
New Password:   
Verify password:   
Process Request

# zPRO Guest Management

VELOCITY SOFTWARE Self Service VSIVM4 JAMES Settings

zPRO V3111 2018-08-08

Self Service > zPRO

Auto Arrange Close All

Enterprise Create Servers Manage Servers & Resources Clone a Minidisk Set Virtual Machine Owner Add a Minidisk Change a Minidisk Display/Modify owned servers Change Virtual Machine CPUs Change a Server's Password View Resources Manage zPRO Users Reports VALIDATION

Server List for JAMES (ADMIN view)

Search Criteria...

Sel	Server	Owner	Group	Expiration	System	Status
<input type="checkbox"/>	DEMOBLK	BARTON	ADMIN	NONE	VSIVM4	Not Running
<input type="checkbox"/>	DSA0001	TDNVS1	TONY1	NONE	VSIVM4	Running
<input type="checkbox"/>	GOLDTDN1	RKSDEV	GROUP1	NONE	VSIVM4	Not Running
<input type="checkbox"/>	JAMES100	JAMES	ADMIN	11 Oct 2018 - 07:43:00	VSIVM4	Not Running
<input type="checkbox"/>	JAMES101	JAMES	ADMIN	11 Oct 2018 - 07:43:51	VSIVM4	Not Running
<input type="checkbox"/>	JAMES102	JAMES	ADMIN	28 Oct 2018 - 16:26:51	VSIVM4	Running
<input type="checkbox"/>	JAMES103	JAMES	ADMIN	30 Oct 2018 - 04:04:07	VSIVM4	Running
<input type="checkbox"/>	JAMES104	JAMES	ADMIN	30 Oct 2018 - 04:52:54	VSIVM4	Not Running
<input type="checkbox"/>	JAMES105	JAMES	ADMIN	30 Oct 2018 - 04:54:53	VSIVM4	Not Running
<input type="checkbox"/>	JAMES106	JAMES	ADMIN	6 Nov 2018 - 07:33:12	VSIVM4	Not Running
<input type="checkbox"/>	LXDB2001	RKSDEV	GROUP1	NONE	VSIVM4	Running
<input type="checkbox"/>	NC SX0401	NC SI0000	NCATGRP	30 Oct 2018 - 10:28:46	VSIVM4	Running

Start Stop Delete View Log Edit MDisks LINKs

# zPRO Provisioning 1

**VELOCITY SOFTWARE** Self Service VSIVM4 JAMES Settings

zPRO V3110 2018-07-11

Self Service > zPRO

**Clone a Virtual Machine**

Image to Copy: DEFLNXRO

New ID: [ ]

Password: [ ]

Verify Password: [ ]

Account No.: N/A

No. Cpus: 1

Memory Size: 1 G

Days to expiration: 2

Auto Start Server

Optional (blank field for no email):  
Email address to send notification to: james@velocitysoftware.com

Your Return Email address: james@velocitysoftware.com

Process Request

Auto Arrange

Close All

Enterprise

Create Servers

- Build multiple Virtual Machines from one Gold Image
- Clone a Virtual Machine
- Request a CMS virtual machine
- Request RHEL 7.4 Server
- Request a Minimal SLES 11 Linux Server
- Request a Full SLES 11 Linux Server
- Request a Ubuntu 16.04 Linux Server
- Request an Ubuntu 17.10 Linux Server
- Request a SLES Linux server running Oracle
- Request a z/VM 6.4 Virtual Machine
- Clone second level z/VM 6.4

# zPRO Provisioning 2

The screenshot displays the Velocity Software Self Service interface. At the top, the Velocity Software logo is on the left, followed by 'Self Service' and 'VSIVM4'. On the right, a user profile for 'JAMES' with a 'Settings' dropdown is visible. Below the header, a navigation sidebar on the left lists various server creation options, including 'Enterprise', 'Create Servers', and several 'Request' buttons for different operating systems like RHEL 7.4, SLES 11, and Ubuntu. The main content area shows a breadcrumb '> zPRO' and two overlapping dialog boxes. The first dialog, titled 'Request RHEL 7.4 Server', contains a 'Hello' message, a text input field with 'James Vincent', a confirmation message 'You are about to request the generation of a Redhat Linux server.', a checked checkbox for 'Do you wish to start server', and a text input field for 'Details will be sent to:' containing 'james@velocitysoftware.com'. A 'Process Request' button is at the bottom. The second dialog, titled 'Request a z/VM 6.4 Virtual Machine', follows a similar structure but includes an unchecked checkbox for 'Auto Start Server' and a different confirmation message: 'You are about to request the generation of a z/VM 6.4 virtual machine running on DEMO.VELOCITYSOFTWARE.COM'.



# zPRO Provisioning Status

The screenshot displays the Velocity Software Self Service interface for user JAMES. The main navigation bar includes the Velocity Software logo, the text "Self Service VSIVM4", and a user profile dropdown for "JAMES Settings". The left sidebar lists various server creation options, with "Request RHEL 7.4 Server" selected. A modal window titled "Request RHEL 7.4 Server" is open, showing a confirmation message to James Vincent: "You are about to request the generation of a Redhat Linux server." The user has checked the option "Do you wish to start server" and provided the email "james@velocitysoftware.com" for details. A "Process Request" button is visible. A notification at the bottom of the modal states: "Image JAMES106 creation started Assigned IP address 10.0.0.18". To the right, a "Job Queue" window shows two completed jobs: "JAMES106 - CLONE Completed 18/08/07 09:15:37" and "JAMES111 - CLONE Completed 18/08/07 04:11:33", both with the note "JAMES106 has been autostarted" and "JAMES111 has been autostarted". Each job entry includes a "Disk 0200 - Ended" status. A "Refresh Job List" button is at the top of the queue, and a "Clear Completed Jobs" button is at the bottom.

# zPRO Auditing

The screenshot displays the Velocity Self Service interface for user VSIVM4. The main content area shows the 'JAMES111 Log' for server JAMES111. The log contains several entries with timestamps, user names, and system messages. A 'Job Queue' window is also visible in the background.

**Velocity Software Self Service VSIVM4**  
zPRO V3110 2018-07-11

**Self Service**  
Auto Arrange  
Close All  
Enterprise  
Create Servers  
Build multiple Virtual Machines from one Gold Image  
Clone a Virtual Machine  
Request a CMS virtual machine  
Request RHEL 7.4 Server  
Request a Minimal SLES 11 Linux Server  
Request a Full SLES 11 Linux Server  
Request a Ubuntu 16.04 Linux Server  
Request an Ubuntu 17.10 Linux Server  
Request a SLES Linux

**zPRO**

**Request RHEL 7.4 Server**

Hello  
James Vincent

**JAMES111 Log**

Filter:  Order Toggle:

	08/07/2018 - 04:23:55.712892	JAMES	ZMDSKMGT: Request to list all links from JAMES111
	08/07/2018 - 04:23:35.870958	JAMES	PROCZPRO: Minidisk 0204 deleted from server JAMES111 rc=0
	08/07/2018 - 04:23:35.868674	JAMES	ZMDSKMGT: Minidisk 0204 deleted from server JAMES111
	08/07/2018 - 04:23:34.560069	JAMES	ZMDSKMGT: Delete minidisk 0204 requested for JAMES111
	08/07/2018 - 04:22:57.279712	JAMES	PROCZPRO: Minidisk 0204 added to server JAMES111 with size 5 cylinders rc=0
	08/07/2018 - 04:22:57.277180	JAMES	ZMDSKMGT: Minidisk 0204 added to server JAMES111 with size 5 cylinders
	08/07/2018 - 04:22:55.954423	JAMES	ZMDSKMGT: Add minidisk 0204 requested for JAMES111
	08/07/2018 - 04:22:55.945762	JAMES	ZMDSKMGT: Request to list all devices for JAMES111

Refresh Job Lis

Clear Completed Jobs

**JAMES Settings**  
Job Queue  
Audit Log  
Report Bug  
About zPRO  
Logout

# zPRO IP Resource Management

VELOCITY SOFTWARE Self Service VSIVM4 JAMES Settings

zPRO V3110 2018-07-11

Self Service > zPRO

Auto Arrange

Close All

Enterprise

Create Servers

Manage Servers & Resources

View Resources

Display zPRO controlled IP addresses

Resource Graph

Resource Usage

Server Performance

Manage Users

Reports

### IP Address List for JAMES

Search Criteria...

10.0.0.18	ALLOC	08/07/18	JAMES	JAMES106	VSI10NET
10.0.0.19	FREE	07/16/18			VSI10NET
10.0.0.21	FREE	06/26/18			VSI10NET
10.0.0.22	FREE	06/26/18			VSI10NET
10.0.0.23	FREE	06/26/18			VSI10NET
10.0.0.24	FREE	06/26/18			VSI10NET
10.0.0.25	ALLOC	04/18/18	RKSDEV	RKSUBU01	VSI10NET
10.0.0.26	FREE	05/27/18			VSI10NET
10.0.0.27	FREE	05/27/18			VSI10NET
10.0.0.28	FREE	05/27/18			VSI10NET

# zPRO Highlights

VELOCITY SOFTWARE Self Service VSIVM4 JAMES Settings

zPRO V3110 2018-07-11

Self Service > zPRO

Auto Arrange

Close All

Enterprise

Create Servers

Manage Servers & Resources

View Resources


- Display zPRO controlled IP addresses
- Resource Graph
- Resource Usage
- Server Performance

Manage Users

Reports

### Server Performance - JAMES

Search Criteria...

Server	Type	Owner	Status
DEMOBLK		BARTON	Not Running
DSA0001		TDNVS1	Running
GOLDTDN1		RKSDEV	Not Running
JAMES100		JAMES	Not Running
JAMES101		JAMES	Not Running
JAMES102		JAMES	Running
<a href="#">JAMES103</a>		JAMES	Running
JAMES104		JAMES	Not Running
JAMES105		JAMES	Not Running
<a href="#">JAMES106</a>		JAMES	Running
<a href="#">JAMES107</a>		JAMES	Running
JAMES108		JAMES	Not Running

# zPRO User Management

VELOCITY SOFTWARE  
zPRO V3110 2018-07-11

Self Service VSIVM4

JAMES Settings

Self Service > zPRO


Managed User List

Search Criteria...

Sel	User	Alt-ID of	Name	Has Servers
	ADMIN	n/a	zPRO Administrator	No
	BARTON	ADMIN	Barton Robinson	Yes
	BLAKE	n/a	Blake Robinson	No
	DEMOZPRO	n/a	VSI_Demo User	No
	DGUEST	n/a	VSI_Demo Guest	No
	GRP1ADM	n/a	VSI-Demo Admin	No
	GRP1USER	n/a	VSI-Demo User	No
	IAMOPER	n/a	Joe Operator	No
	JAMES	n/a	James Vincent	Yes
	JSVDEV	NCATIT01	James Zincent	Yes
	KATHADM	n/a	Kathryn Arrell	No
	NCATIT01	n/a	Cameron Seay	No
<input type="checkbox"/>	NC SIKATH	NCATIT01	Kathryn Arrell	No

Delete

# zPRO Resource Reports

 **Self Service** VSIVM4 JAMES Settings  
zPRO V3110 2018-07-11

**Self Service** > zPRO

**Velocity Software zPRO User Report**

zPRO User and Group Summary:

- 31 Total zPRO users with ZPUSER configurations
- 27 Total zPRO Alternate users related to a ZPUSER
- 
- 58 Total of all zPRO users
  
- 22 Total zPRO Groups defined
  
- 6 zPRO users with servers assigned
- 52 zPRO users with no servers assigned

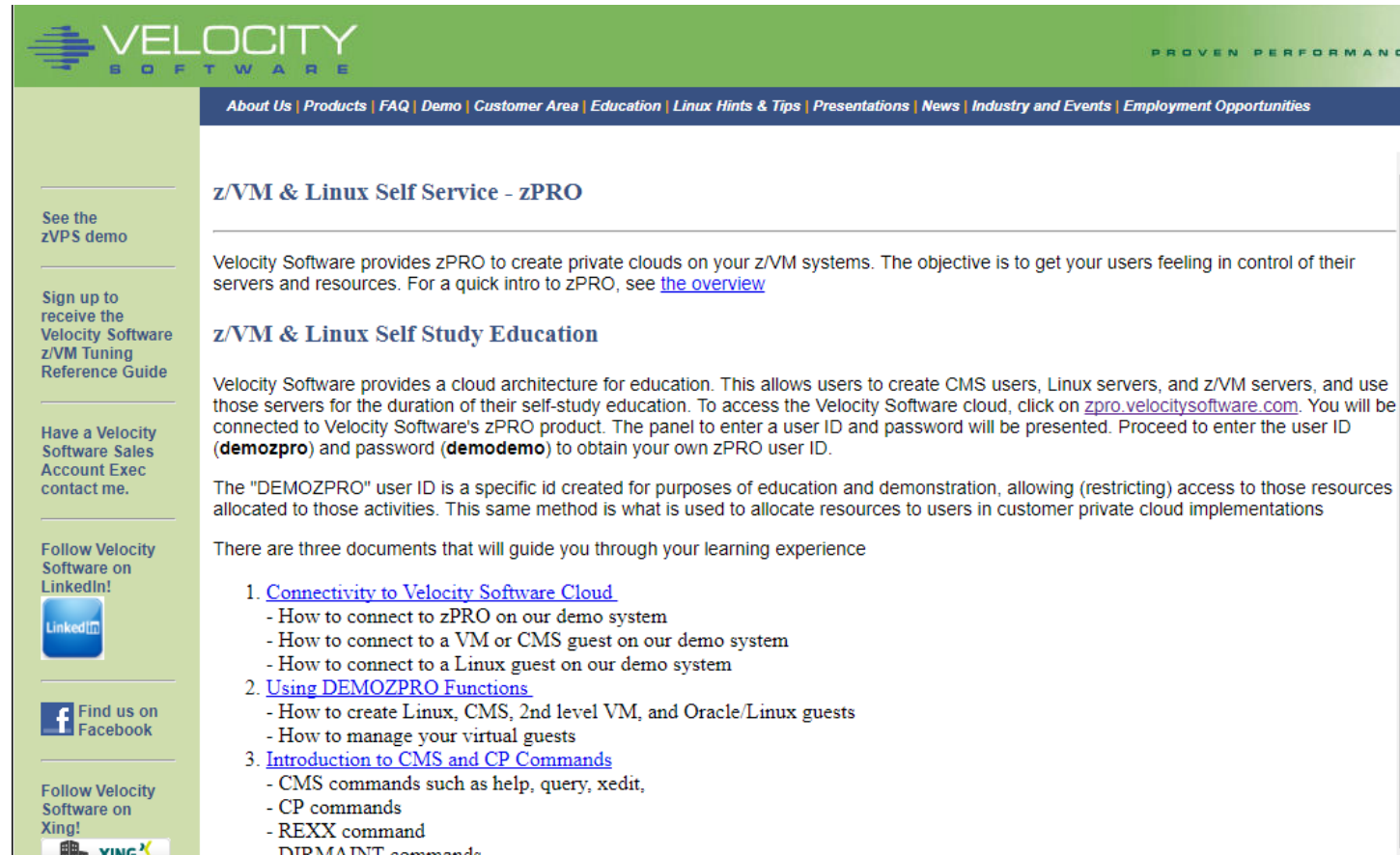
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zPRO users for group ADMIN

Userid	Name	Email	ALT-IDs	Servers	Last Seen
ADMIN	zPRO Administrator	support@velocitysoftware.com	2	0	>2018-05-07
* BARTON	Barton Robinson	barton@velocitysoftware.com	.	3	2018-05-09
* ZVPS	zVPS Admin	support@velocitysoftware.com	.	0	>2018-05-07
JAMES	James Vincent	james@velocitysoftware.com	0	12	2018-08-07

# zPRO - z/VM & Linux Education

- <https://www.velocitysoftware.com/educate/>



The screenshot shows the Velocity Software website's education page. The header features the Velocity Software logo and the tagline "PROVEN PERFORMANCE". A navigation bar includes links for "About Us", "Products", "FAQ", "Demo", "Customer Area", "Education", "Linux Hints & Tips", "Presentations", "News", "Industry and Events", and "Employment Opportunities".

The main content area is titled "z/VM & Linux Self Service - zPRO". It contains the following text:

Velocity Software provides zPRO to create private clouds on your z/VM systems. The objective is to get your users feeling in control of their servers and resources. For a quick intro to zPRO, see [the overview](#)

**z/VM & Linux Self Study Education**

Velocity Software provides a cloud architecture for education. This allows users to create CMS users, Linux servers, and z/VM servers, and use those servers for the duration of their self-study education. To access the Velocity Software cloud, click on [zpro.velocitysoftware.com](http://zpro.velocitysoftware.com). You will be connected to Velocity Software's zPRO product. The panel to enter a user ID and password will be presented. Proceed to enter the user ID (**demozpro**) and password (**demodemo**) to obtain your own zPRO user ID.

The "DEMOZPRO" user ID is a specific id created for purposes of education and demonstration, allowing (restricting) access to those resources allocated to those activities. This same method is what is used to allocate resources to users in customer private cloud implementations

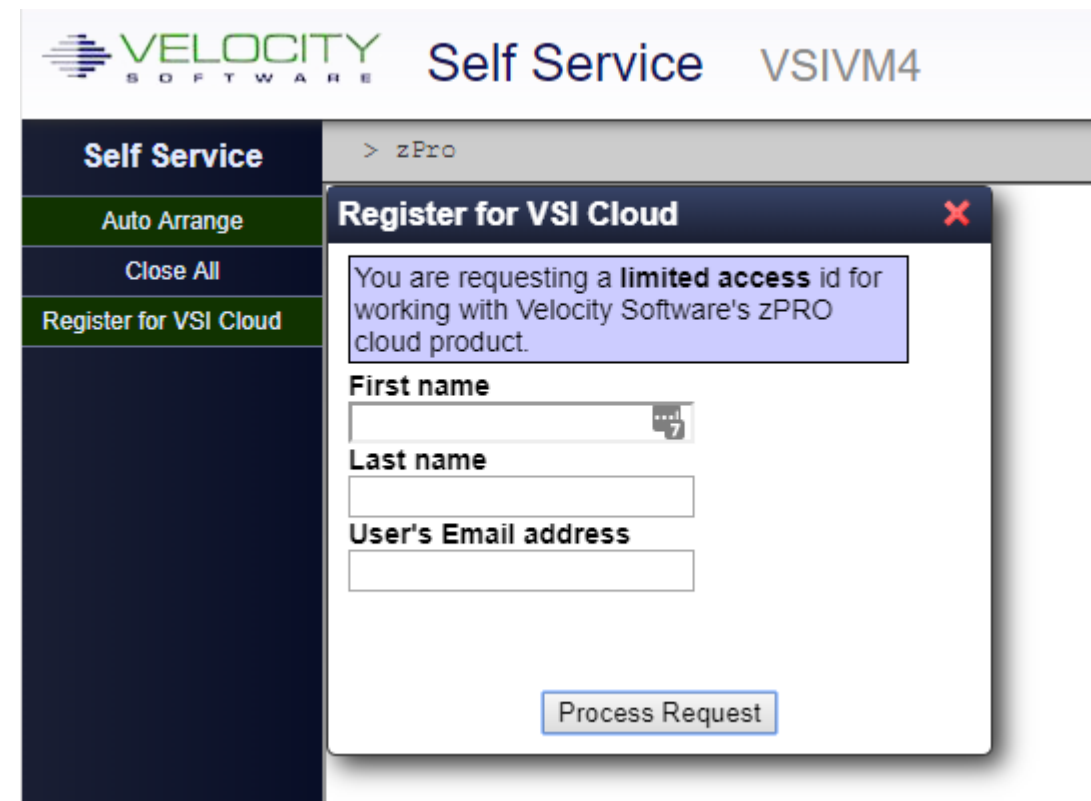
There are three documents that will guide you through your learning experience

1. [Connectivity to Velocity Software Cloud](#)
  - How to connect to zPRO on our demo system
  - How to connect to a VM or CMS guest on our demo system
  - How to connect to a Linux guest on our demo system
2. [Using DEMOZPRO Functions](#)
  - How to create Linux, CMS, 2nd level VM, and Oracle/Linux guests
  - How to manage your virtual guests
3. [Introduction to CMS and CP Commands](#)
  - CMS commands such as help, query, xedit,
  - CP commands
  - REXX command
  - DIRMAINT commands

The left sidebar contains several promotional elements: "See the zVPS demo", "Sign up to receive the Velocity Software z/VM Tuning Reference Guide", "Have a Velocity Software Sales Account Exec contact me.", and social media links for LinkedIn, Facebook, and Xing.

# zPRO Cloud Demo Site

- To register: <https://demo.velocitysoftware.com/zpro/>
  - Userid: **demozpro**
  - Password: **demodemo**
- Check your email for your login info



The screenshot displays the Velocity Software Self Service interface. At the top, the Velocity Software logo is on the left, and 'Self Service' and 'VSIVM4' are on the right. A breadcrumb trail shows '> zPro'. A dark sidebar on the left contains menu items: 'Self Service', 'Auto Arrange', 'Close All', and 'Register for VSI Cloud'. The 'Register for VSI Cloud' option is highlighted. A modal window titled 'Register for VSI Cloud' is open, featuring a red close button. The modal contains a message: 'You are requesting a **limited access** id for working with Velocity Software's zPRO cloud product.' Below this message are three input fields: 'First name', 'Last name', and 'User's Email address'. A 'Process Request' button is located at the bottom of the modal.



# zPRO futures

- **Full RH kickstart support (Done!)**
- **Catalog for Gold Images and Servers (CMDB)**
- **Resource Management Report Catalog**
- **Additional z/VM controls (RACF, SFS, Spool, etc)**
- **Enterprise Control (Cross Origin Resource Sharing)**
- **Open and complete RESTful API support**
- **UI smoother, cleaner, faster**
- **Command-line interface for zDIRECT+**
- **MUCH more!**

# Summary

- **zPRO is Simple, Fast and Powerful to manage your z/VM host and servers**
- **Real customers agree:**
  - ***“zPRO has spoiled me”*** from a Linux Admin that was given access to build and manage application/DB servers
  - ***“zPRO lets me focus on bigger, time-consuming projects”*** from a z/VM Sysprog
  - ***“We are using zPRO to make a case for [solutions] that require data to be stored more securely instead of [in] the AWS cloud.”*** from a z/VM & Linux Sysprog

# Questions / Comments?



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**<https://www.velocitysoftware.com/zPRO.html>**