VMware vSphere VM Deployment & Migration

Overview

This project documents the deployment, configuration, validation, and migration of a Linux virtual machine in a VMware vSphere environment. The workflow follows enterprise standards for provisioning, networking, and system verification.

What Was Done

Deployed a virtual machine from an approved vSphere template

Selected the appropriate data center, cluster, datastore, and VLAN

Configured static networking using nmcli and validated IP details against IPAM

Updated and verified the system hostname to match naming standards

Verified VM health, resources, and connectivity in the vSphere Client

Performed a live VM migration (vMotion) to a new compute resource

Confirmed successful post-migration operation and resource assignments

Result

The virtual machine was successfully deployed, configured, migrated, and validated with no service disruption, meeting all networking and system requirements.

Skills Demonstrated

VMware vSphere & ESXi

Template-based VM provisioning

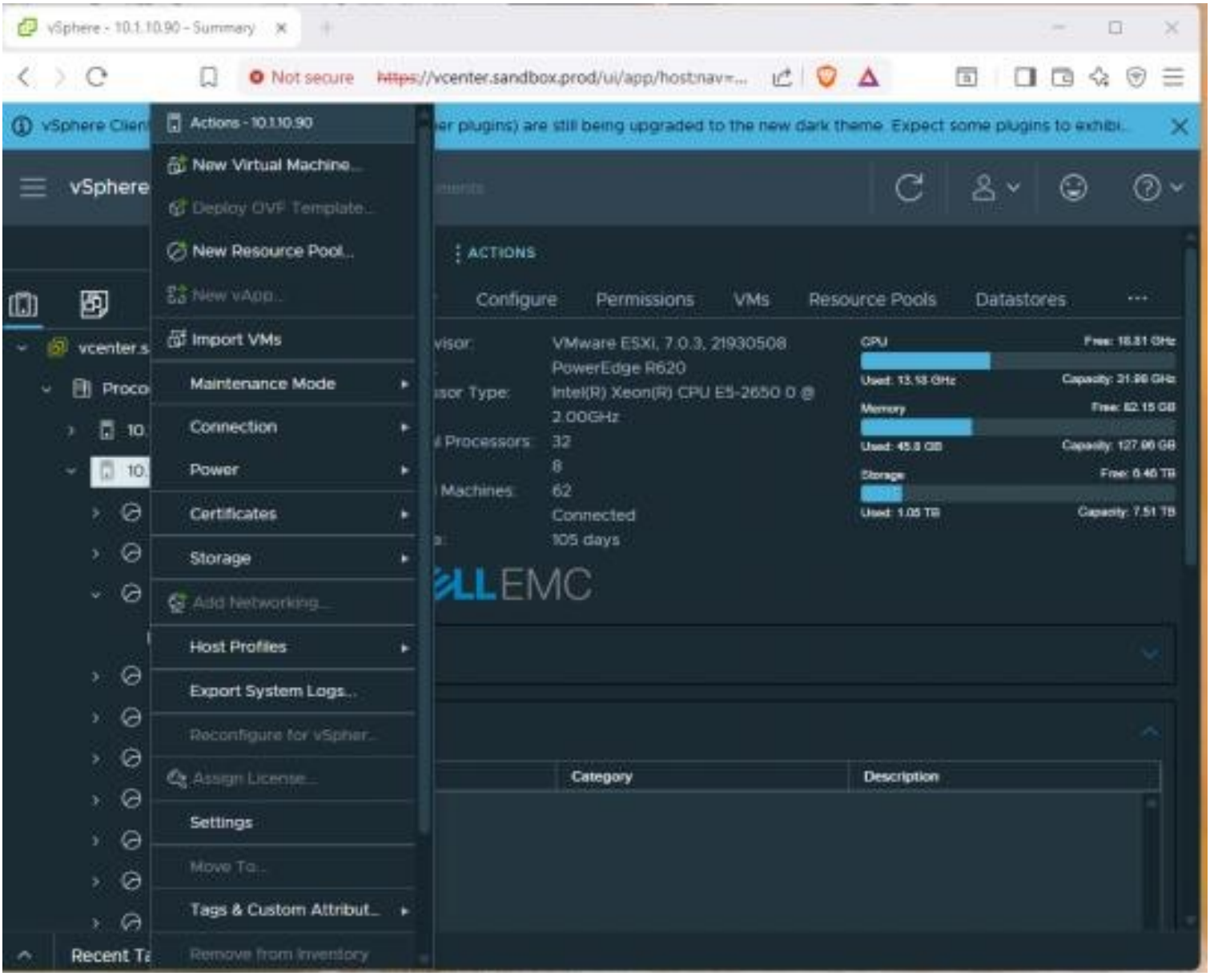
Linux system and network configuration

IP address management (IPAM)

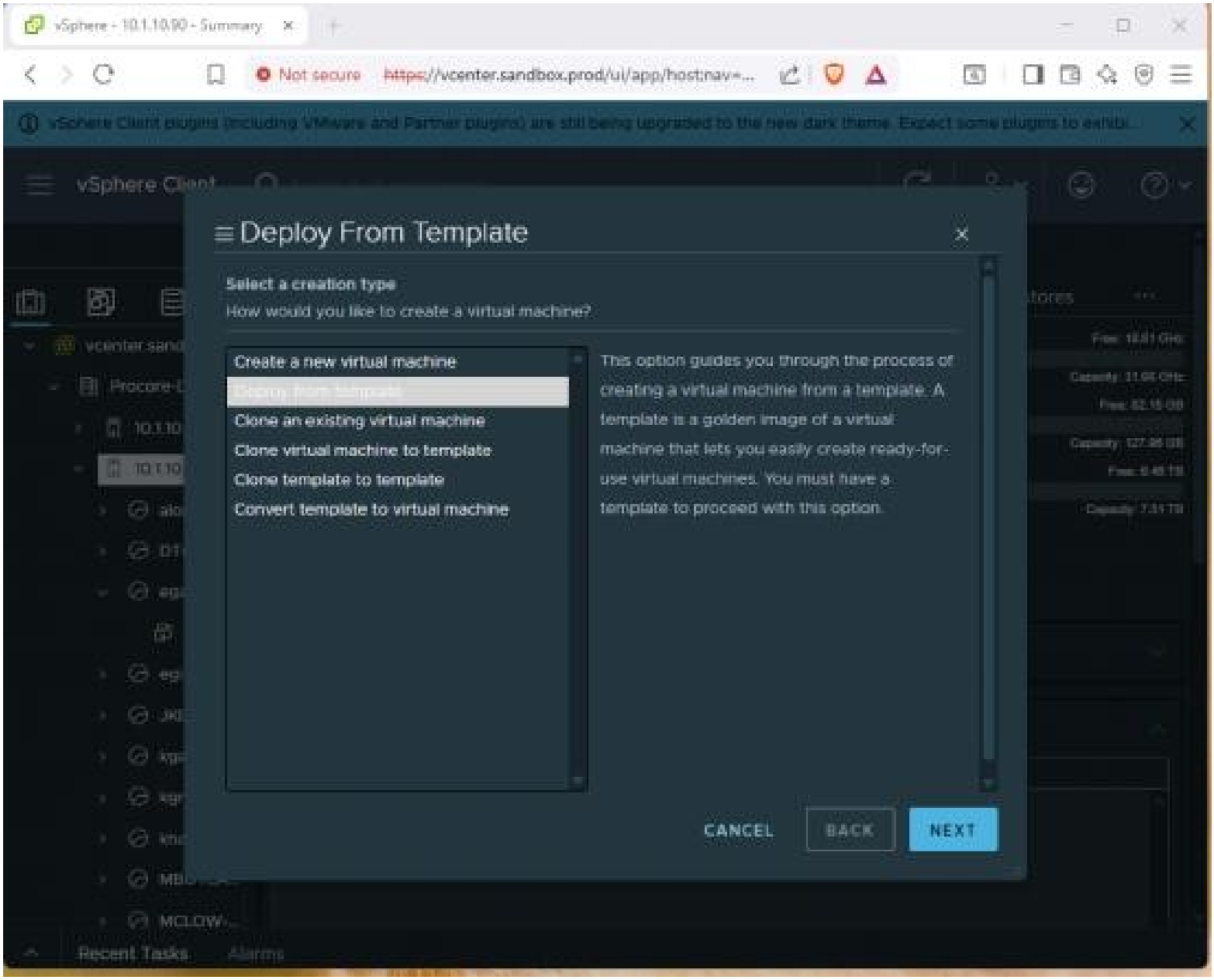
Live migration (vMotion)

Post-deployment verification

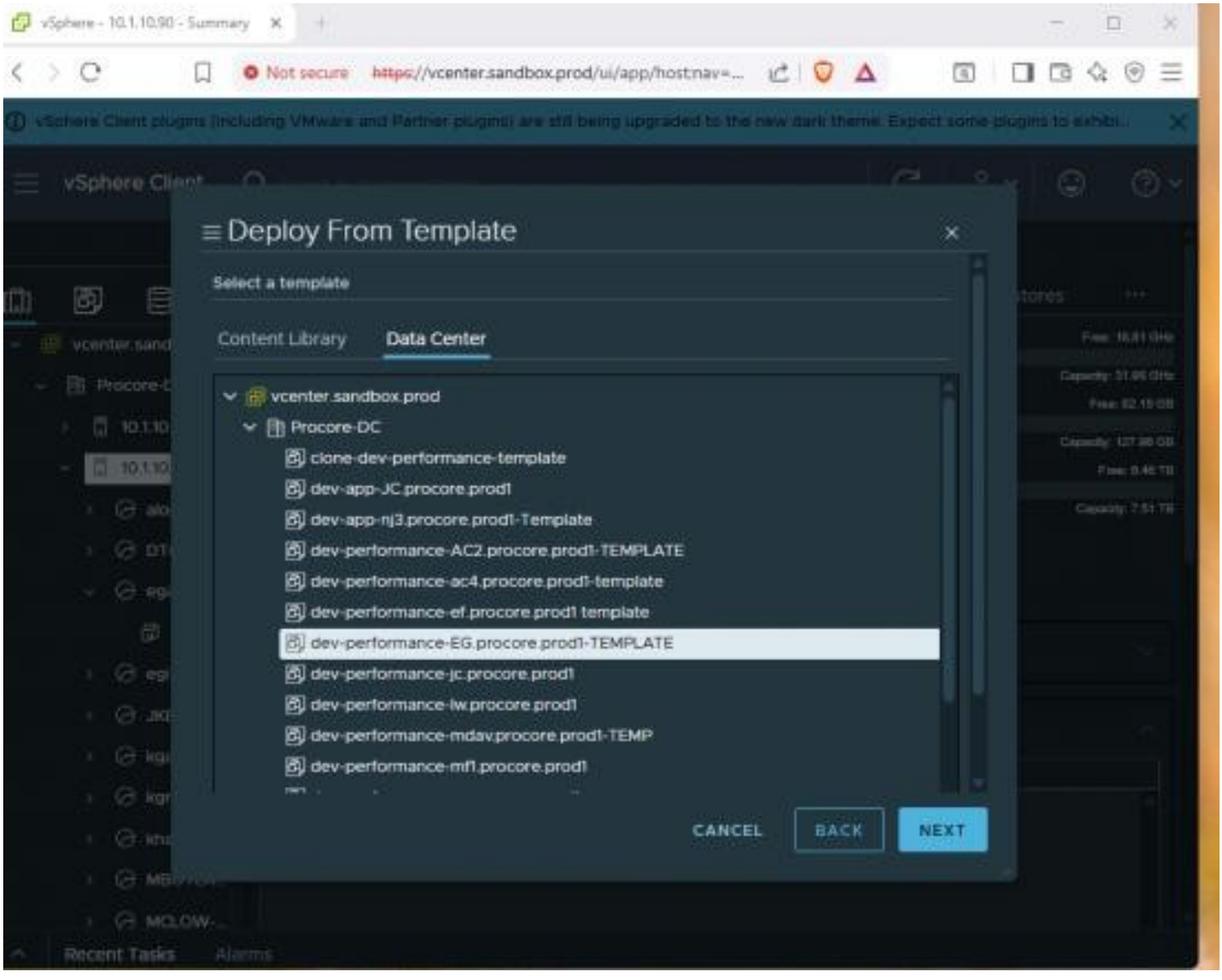
VMware vSphere Client host summary view showing an ESXi host’s hardware resources, uptime, and available administrative actions through the Actions menu.”



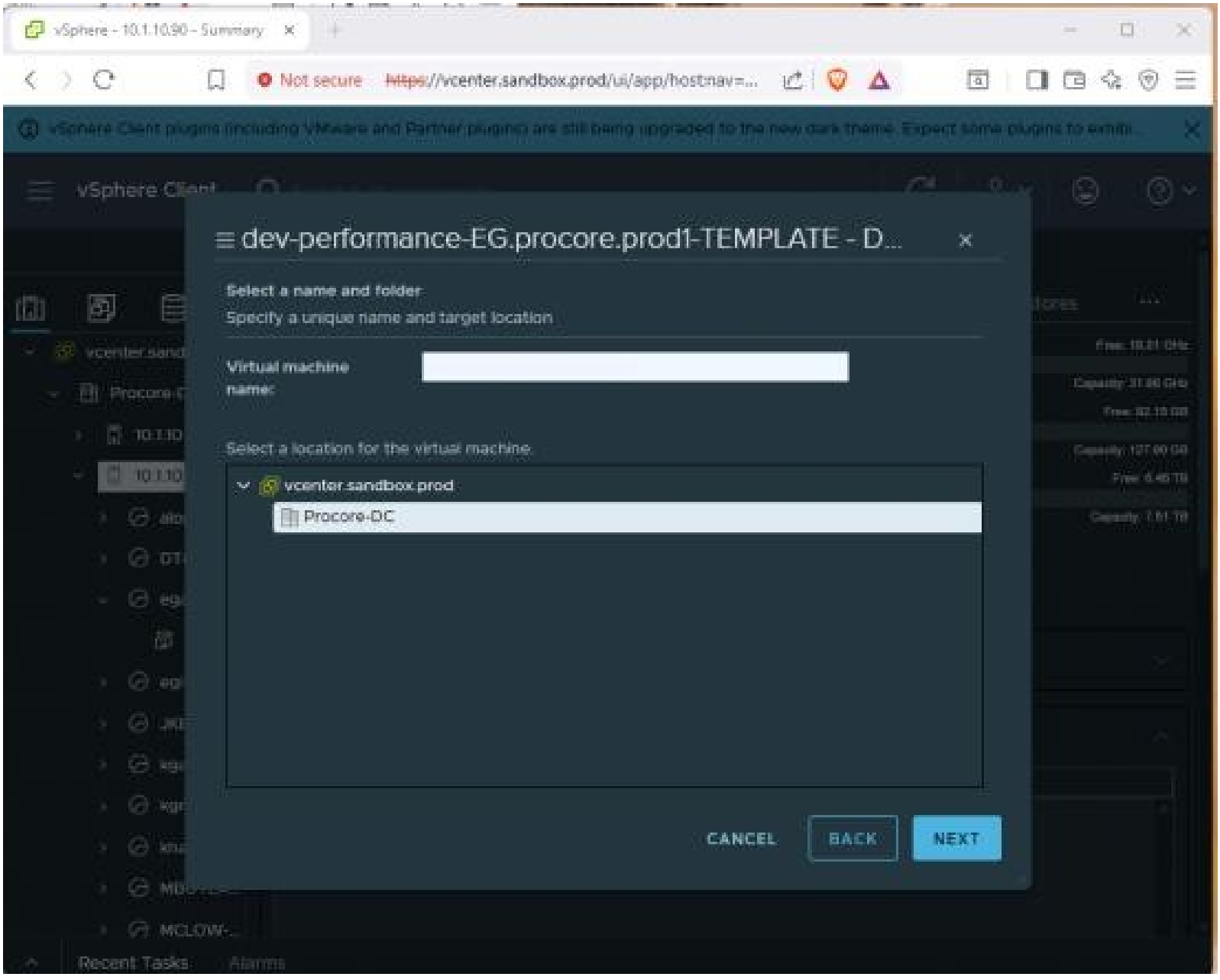
“VMware vSphere Client ‘Deploy From Template’ wizard showing creation options for provisioning a virtual machine from an existing template.”



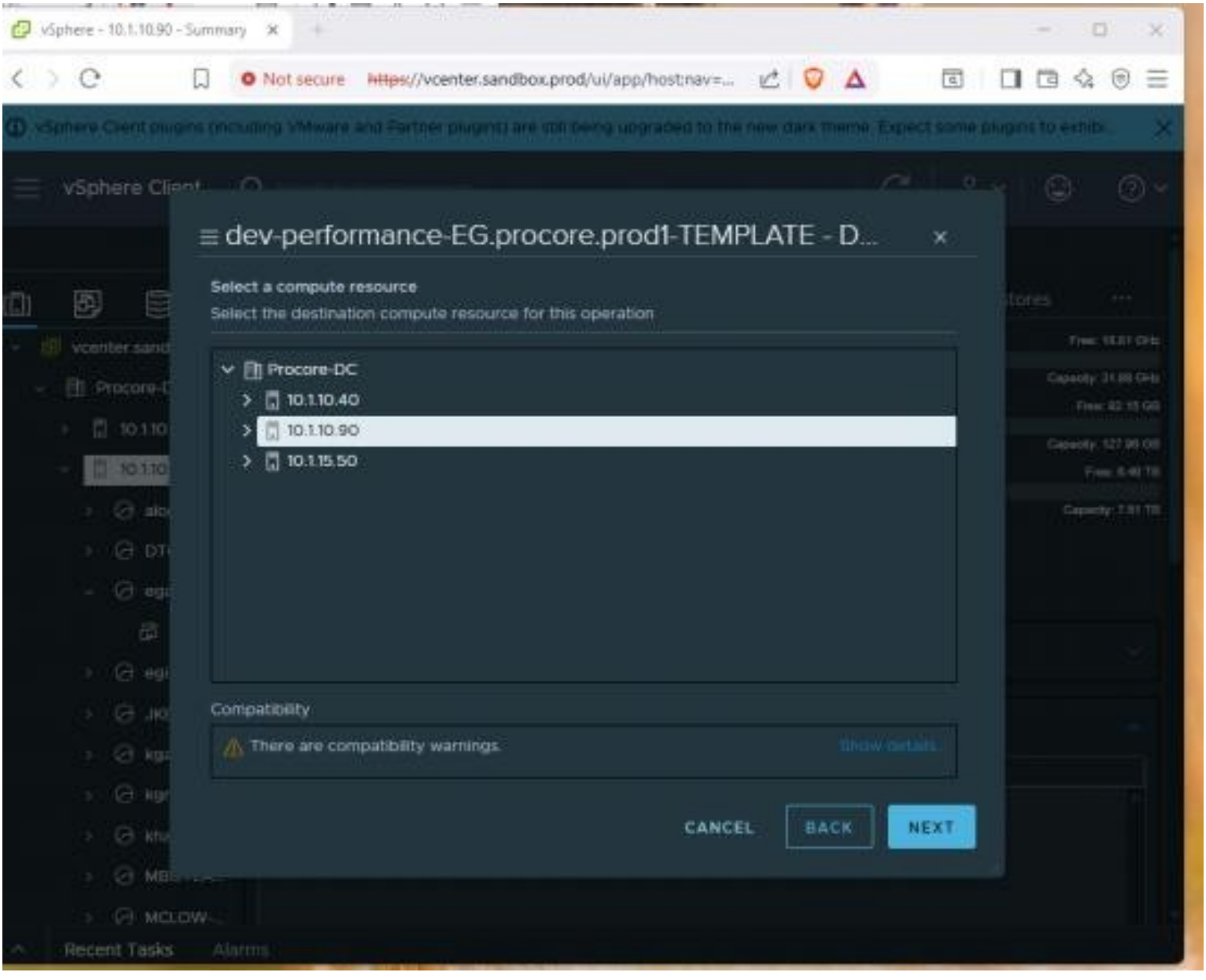
“VMware vSphere Client ‘Deploy From Template’ wizard showing available VM templates within the data center for selecting a source template.”



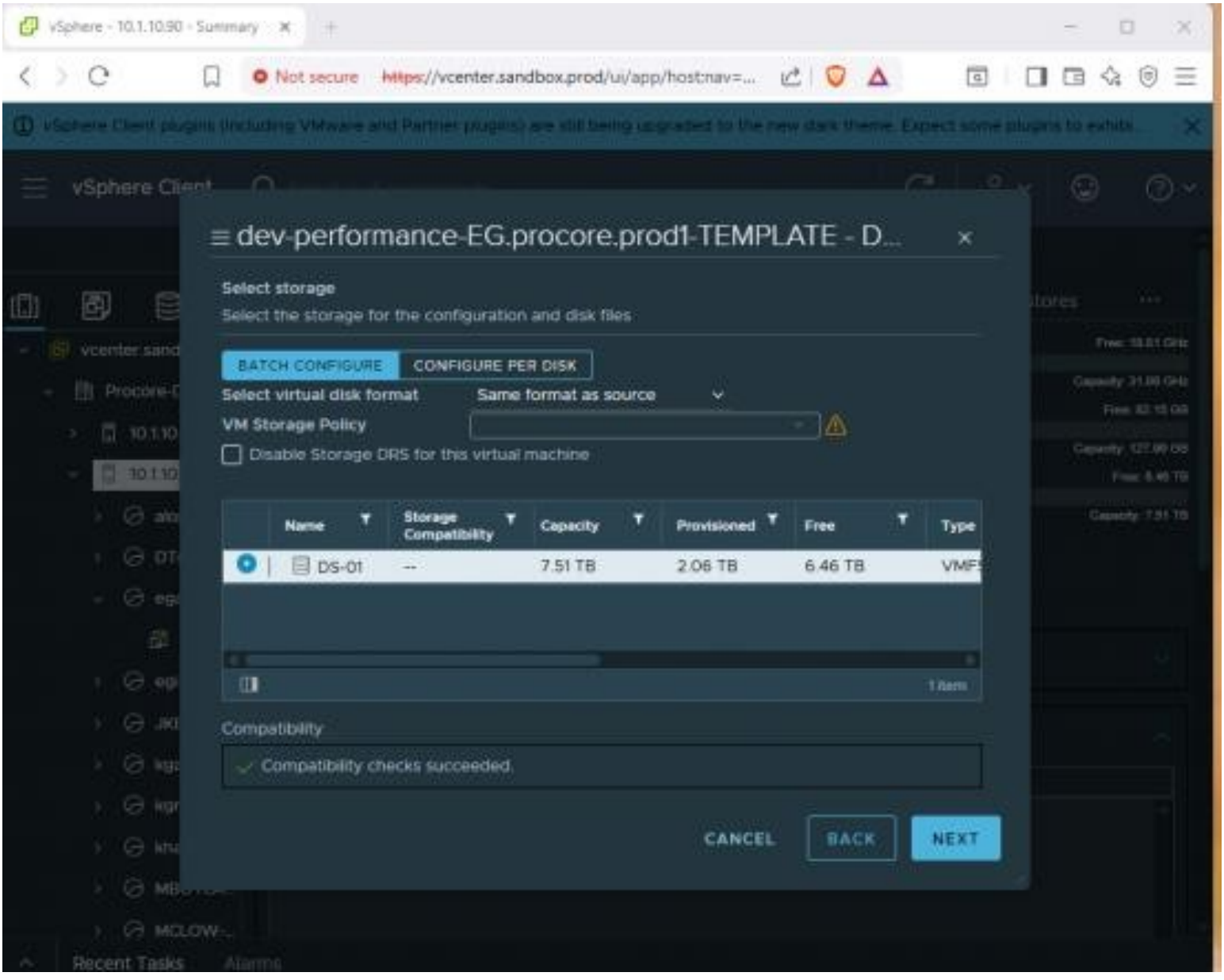
“VMware vSphere Client ‘Deploy From Template’ wizard prompting for a virtual machine name and selection of the target data center.”



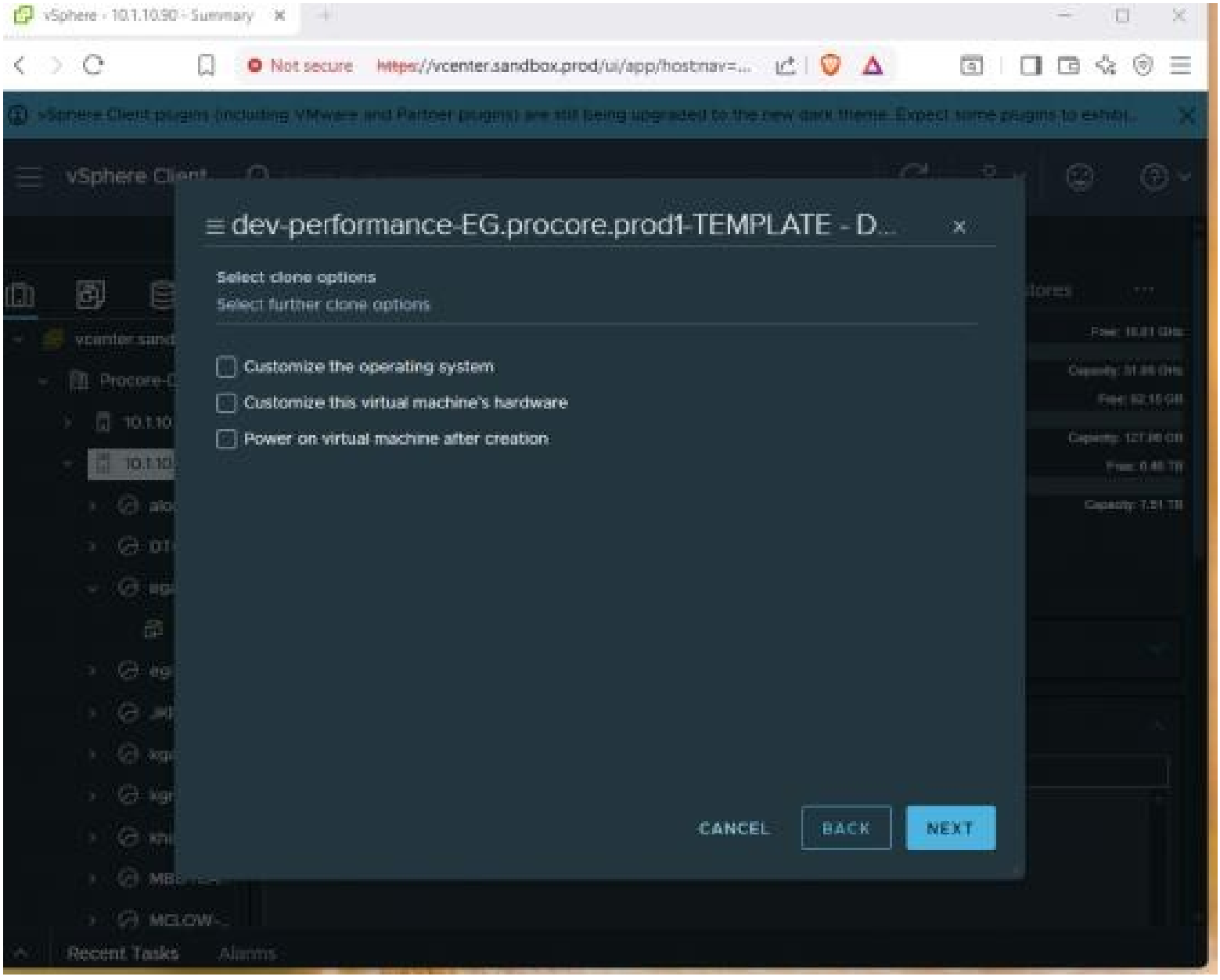
“VMware vSphere Client ‘Deploy From Template’ wizard showing selection of the destination compute resource for the virtual machine.”



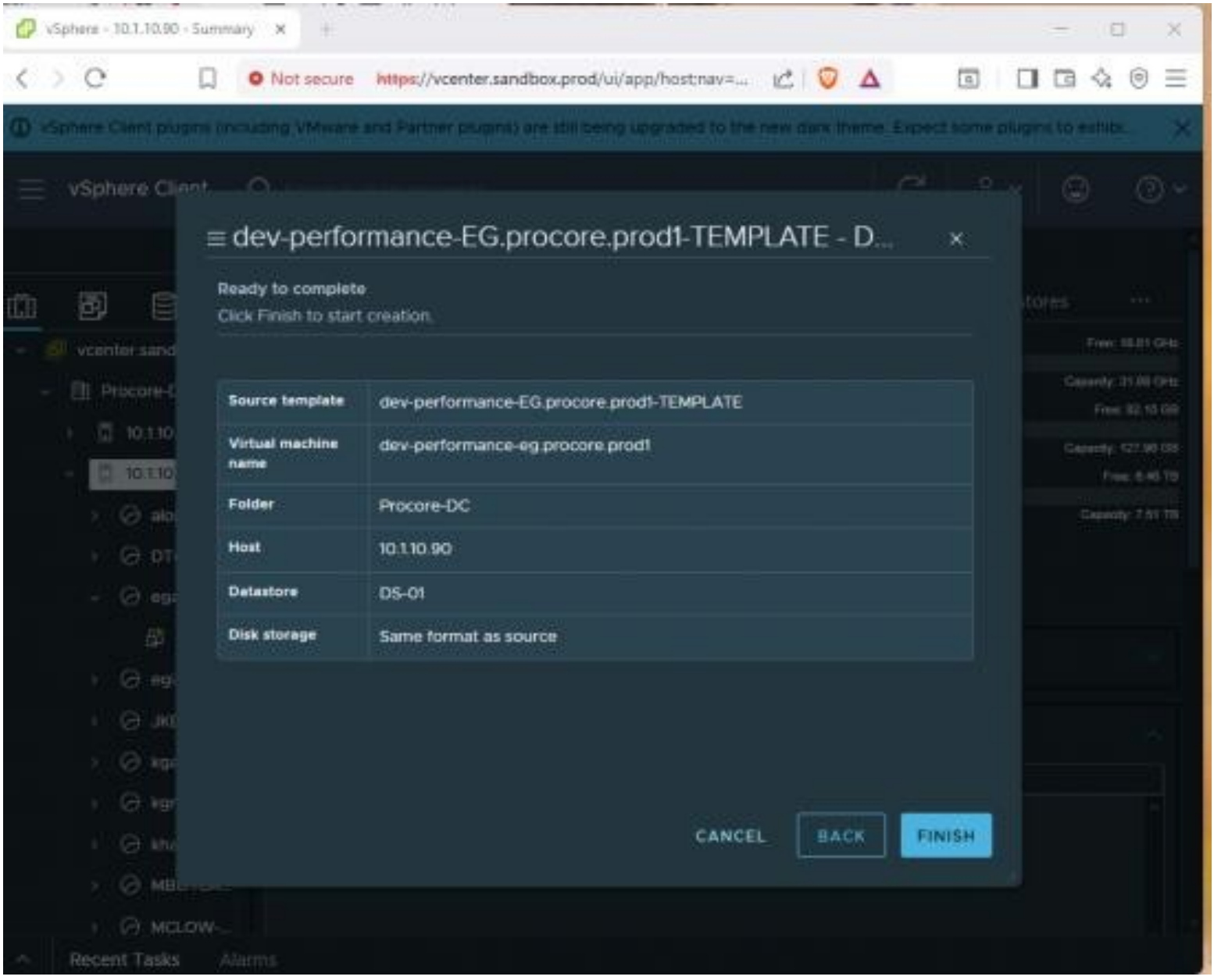
“VMware vSphere Client ‘Deploy From Template’ wizard showing datastore selection and storage configuration for the virtual machine.”



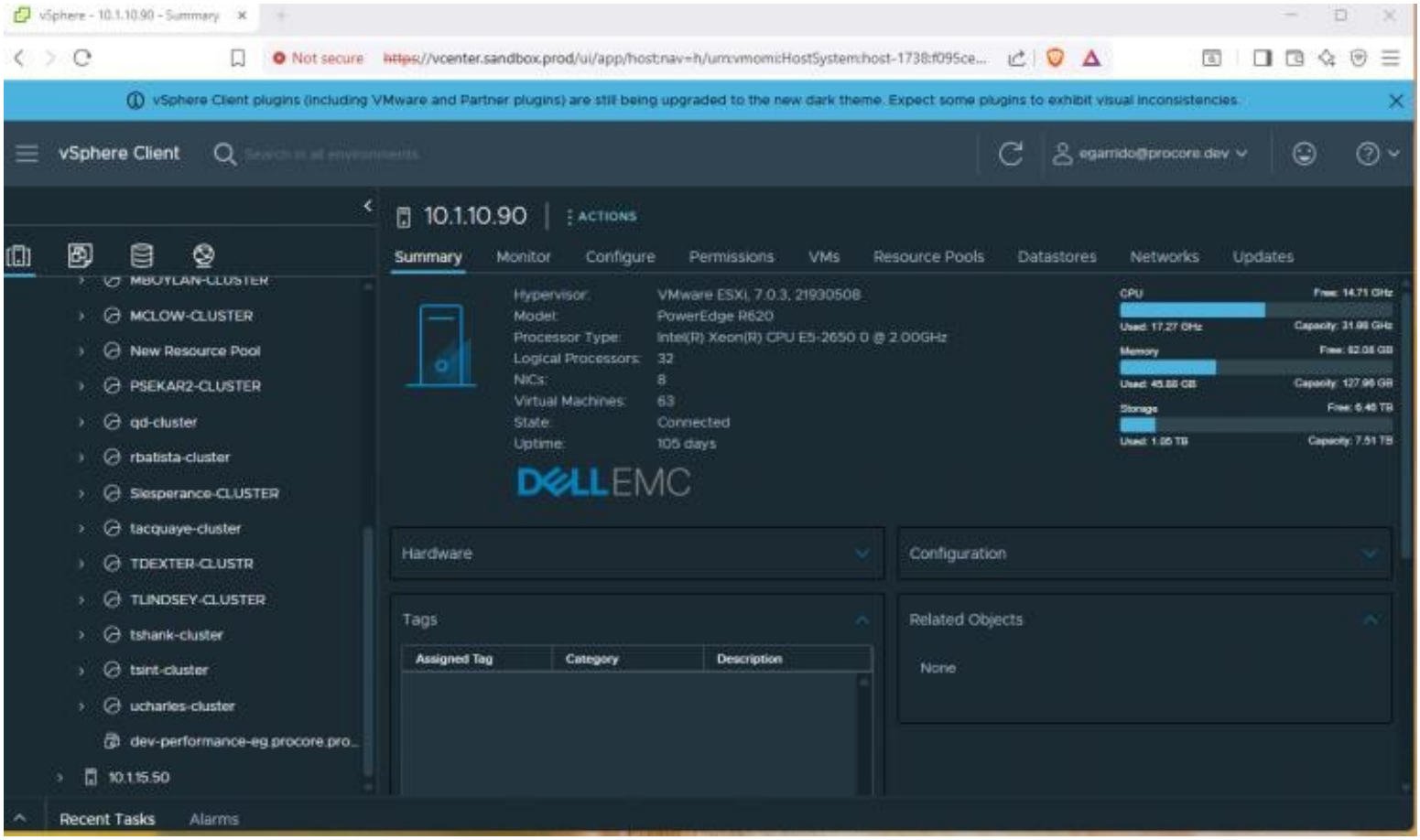
“VMware vSphere Client ‘Deploy From Template’ wizard showing optional customization settings, including OS customization, hardware configuration, and power-on options.”



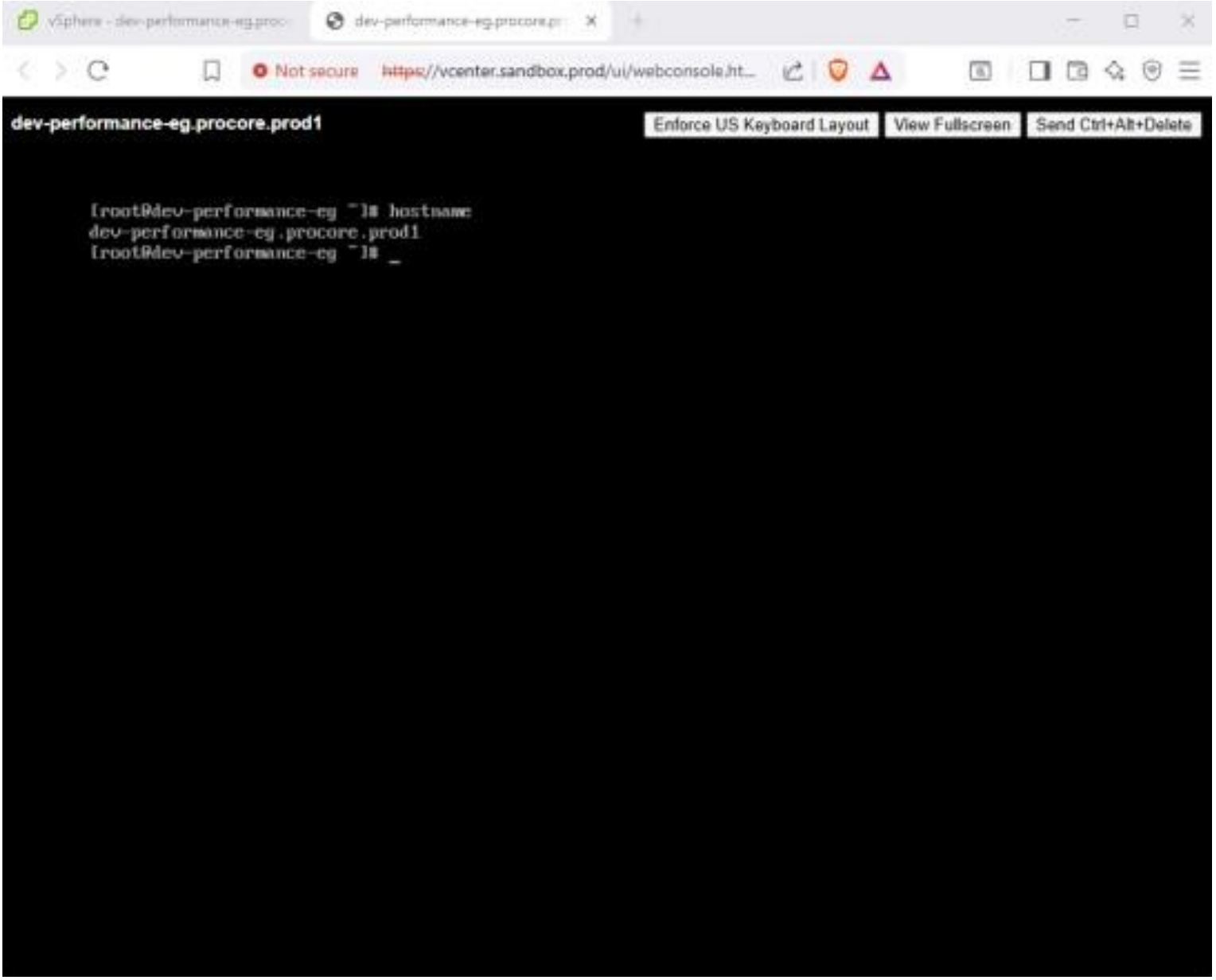
VMware vSphere Client ‘Deploy From Template’ wizard showing the final review and confirmation details before virtual machine creation.”



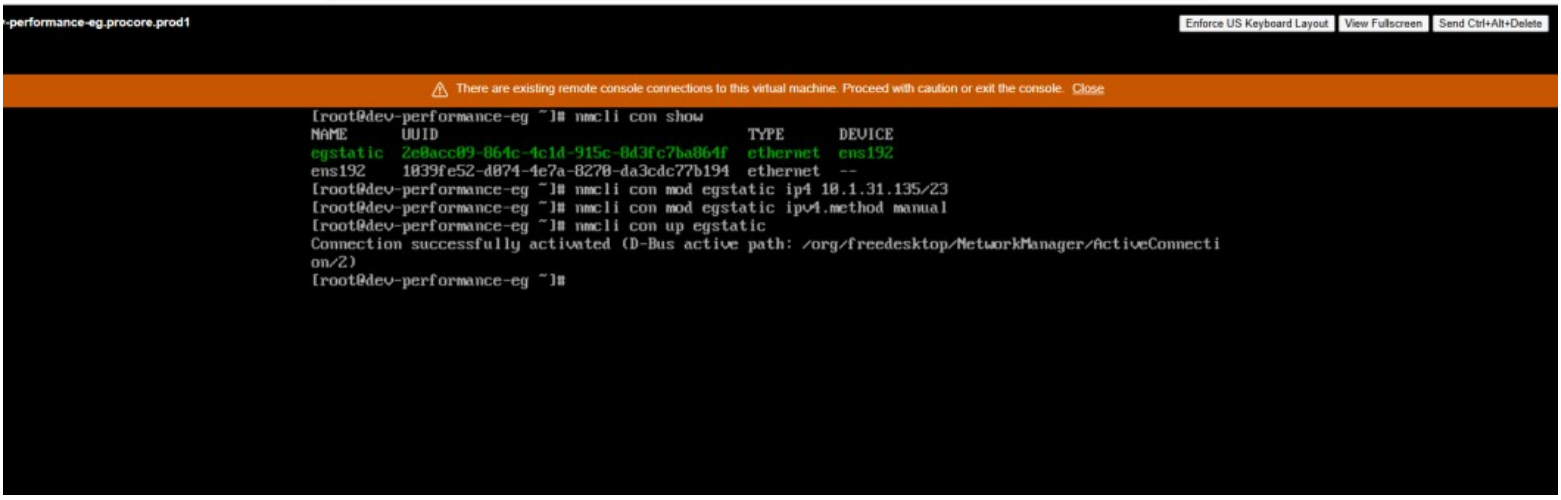
“VMware vSphere Client host summary view showing ESXi host details, resource utilization, and system status.”



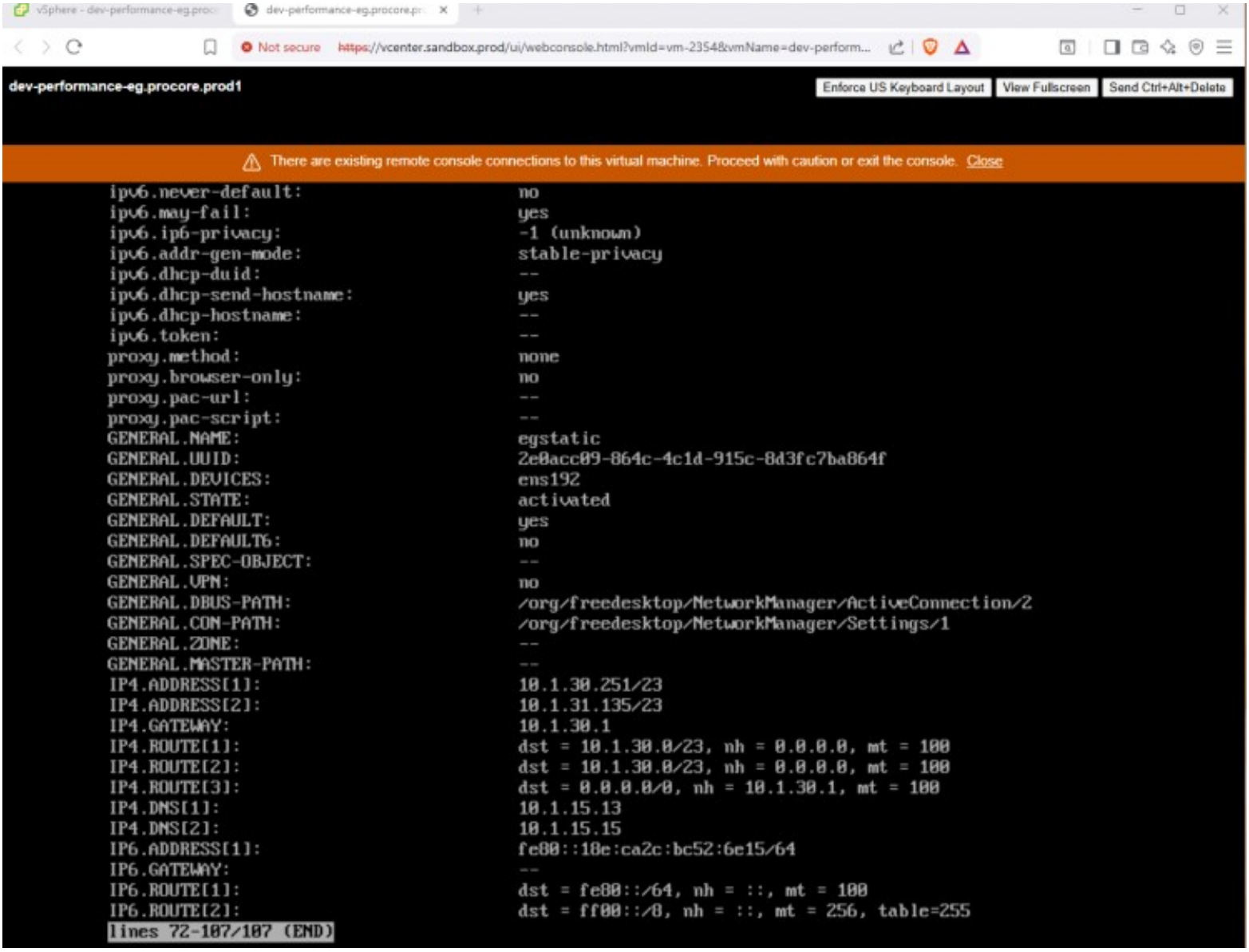
“Linux terminal session verifying the system hostname using the hostname command after virtual machine deployment.”



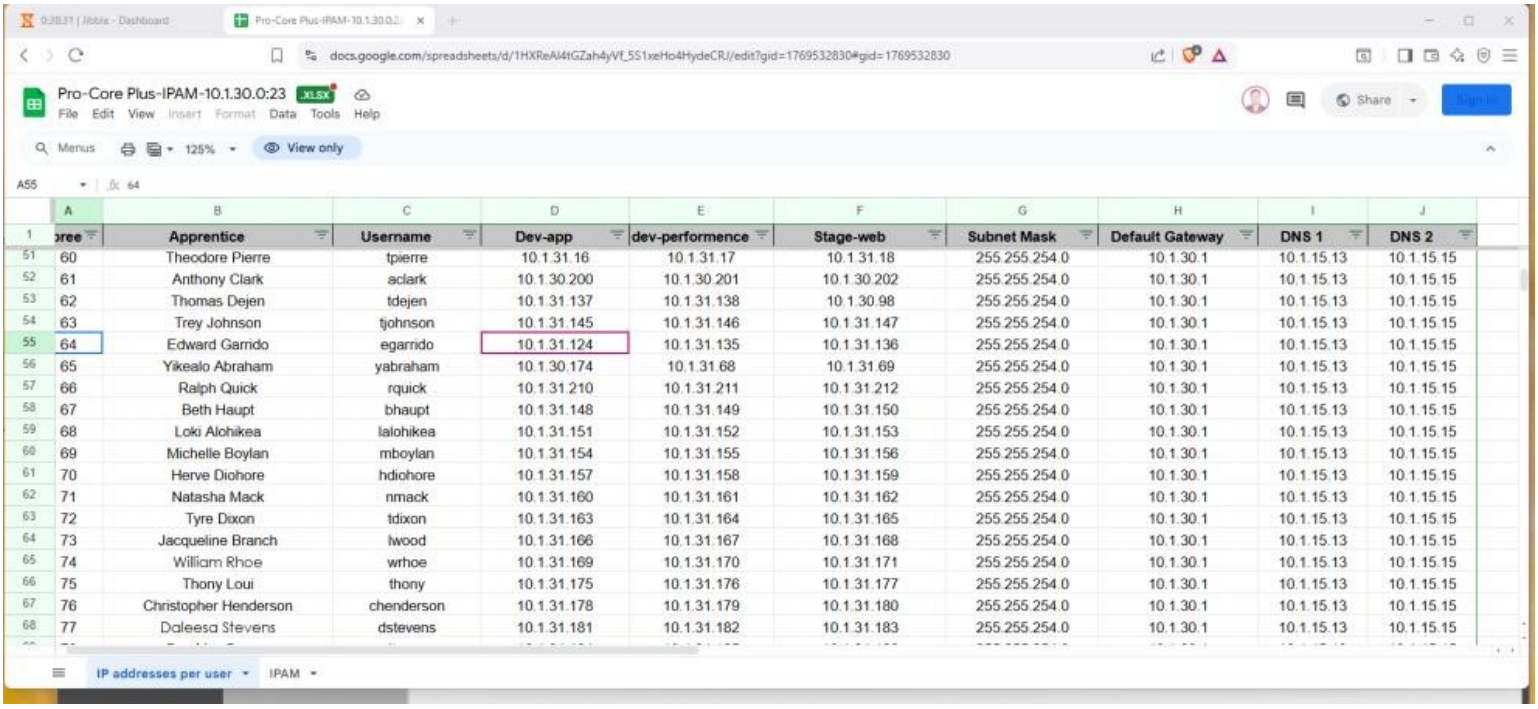
“Linux terminal session using nmcli to configure a static IPv4 address and activate the network connection.”



“Linux terminal output confirming network configuration details and assigned IPv4/IPv6 addresses using nmcli.”



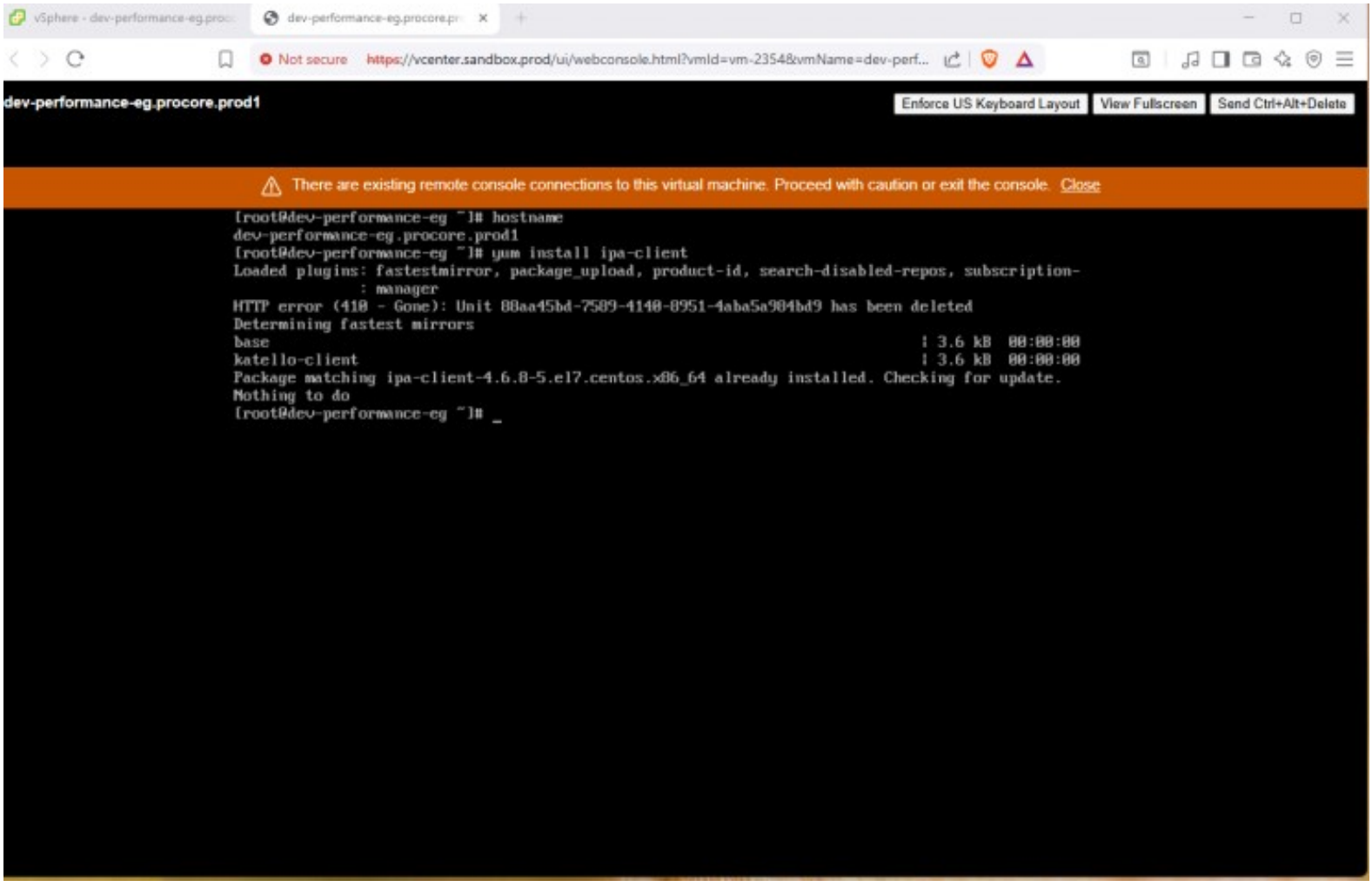
“IPAM spreadsheet showing assigned IP addresses, hostnames, subnet masks, gateways, and DNS servers for development, performance, and staging environments.”



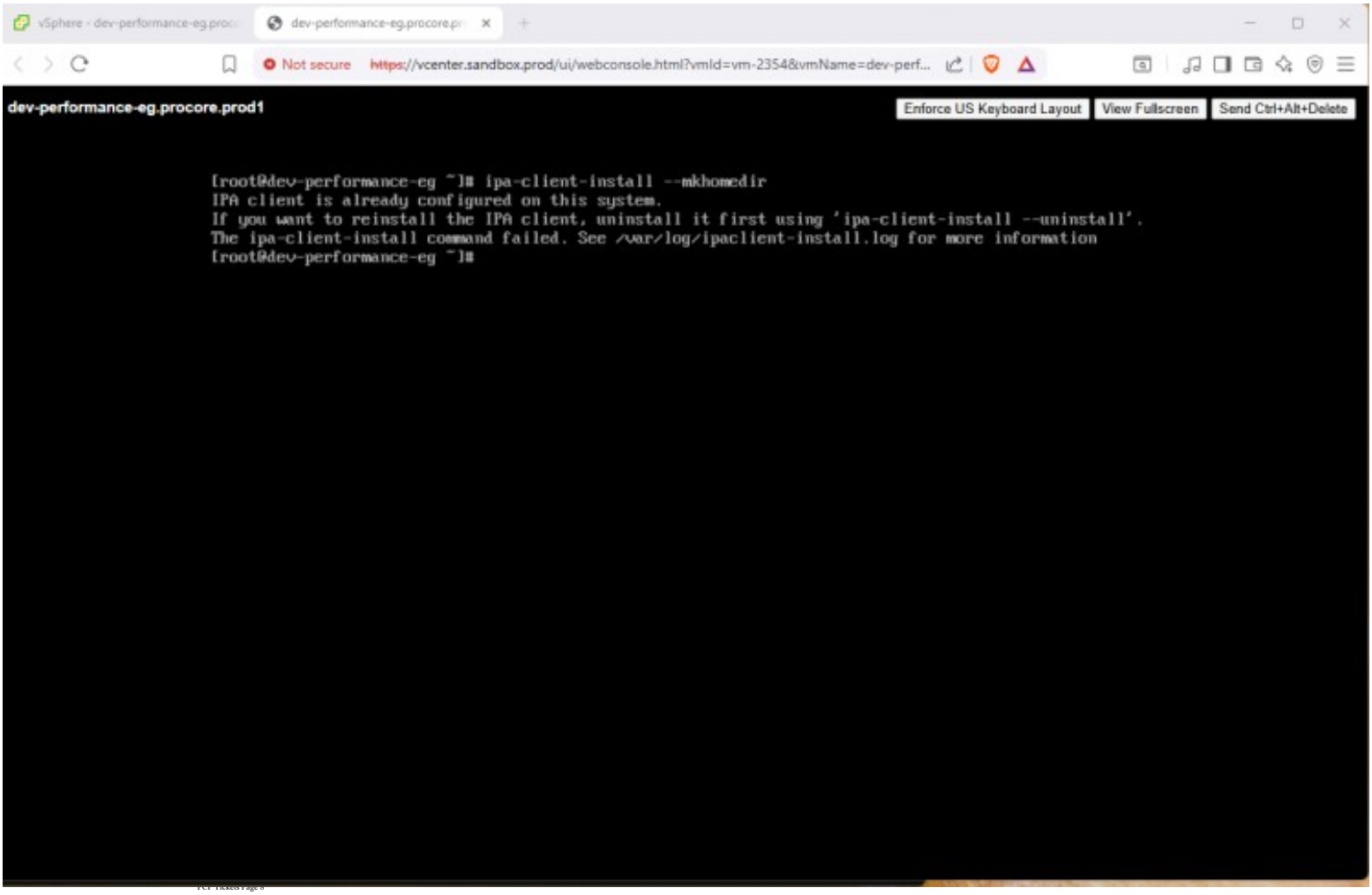
Pro-Core Plus-IPAM-10.1.30.0:23

ree	Apprentice	Username	Dev-app	dev-performence	Stage-web	Subnet Mask	Default Gateway	DNS 1	DNS 2
60	Theodore Pierre	tpierre	10.1.31.16	10.1.31.17	10.1.31.18	255.255.254.0	10.1.30.1	10.1.15.13	10.1.15.15
61	Anthony Clark	aclark	10.1.30.200	10.1.30.201	10.1.30.202	255.255.254.0	10.1.30.1	10.1.15.13	10.1.15.15
62	Thomas Dejen	tdejen	10.1.31.137	10.1.31.138	10.1.30.98	255.255.254.0	10.1.30.1	10.1.15.13	10.1.15.15
63	Trey Johnson	tjohnson	10.1.31.145	10.1.31.146	10.1.31.147	255.255.254.0	10.1.30.1	10.1.15.13	10.1.15.15
64	Edward Garrido	egarrido	10.1.31.124	10.1.31.135	10.1.31.136	255.255.254.0	10.1.30.1	10.1.15.13	10.1.15.15
65	Yikealo Abraham	yabraham	10.1.30.174	10.1.31.68	10.1.31.69	255.255.254.0	10.1.30.1	10.1.15.13	10.1.15.15
66	Ralph Quick	rquick	10.1.31.210	10.1.31.211	10.1.31.212	255.255.254.0	10.1.30.1	10.1.15.13	10.1.15.15
67	Beth Haupt	bhaupt	10.1.31.148	10.1.31.149	10.1.31.150	255.255.254.0	10.1.30.1	10.1.15.13	10.1.15.15
68	Loki Alohikea	lalohikea	10.1.31.151	10.1.31.152	10.1.31.153	255.255.254.0	10.1.30.1	10.1.15.13	10.1.15.15
69	Michelle Boylan	mboylan	10.1.31.154	10.1.31.155	10.1.31.156	255.255.254.0	10.1.30.1	10.1.15.13	10.1.15.15
70	Herve Diohore	hdiohore	10.1.31.157	10.1.31.158	10.1.31.159	255.255.254.0	10.1.30.1	10.1.15.13	10.1.15.15
71	Natasha Mack	nmack	10.1.31.160	10.1.31.161	10.1.31.162	255.255.254.0	10.1.30.1	10.1.15.13	10.1.15.15
72	Tyre Dixon	tdixon	10.1.31.163	10.1.31.164	10.1.31.165	255.255.254.0	10.1.30.1	10.1.15.13	10.1.15.15
73	Jacqueline Branch	lwood	10.1.31.166	10.1.31.167	10.1.31.168	255.255.254.0	10.1.30.1	10.1.15.13	10.1.15.15
74	William Rhoe	wrhoe	10.1.31.169	10.1.31.170	10.1.31.171	255.255.254.0	10.1.30.1	10.1.15.13	10.1.15.15
75	Thony Loui	thony	10.1.31.175	10.1.31.176	10.1.31.177	255.255.254.0	10.1.30.1	10.1.15.13	10.1.15.15
76	Christopher Henderson	chenderson	10.1.31.178	10.1.31.179	10.1.31.180	255.255.254.0	10.1.30.1	10.1.15.13	10.1.15.15
77	Daleesa Stevens	dstevens	10.1.31.181	10.1.31.182	10.1.31.183	255.255.254.0	10.1.30.1	10.1.15.13	10.1.15.15

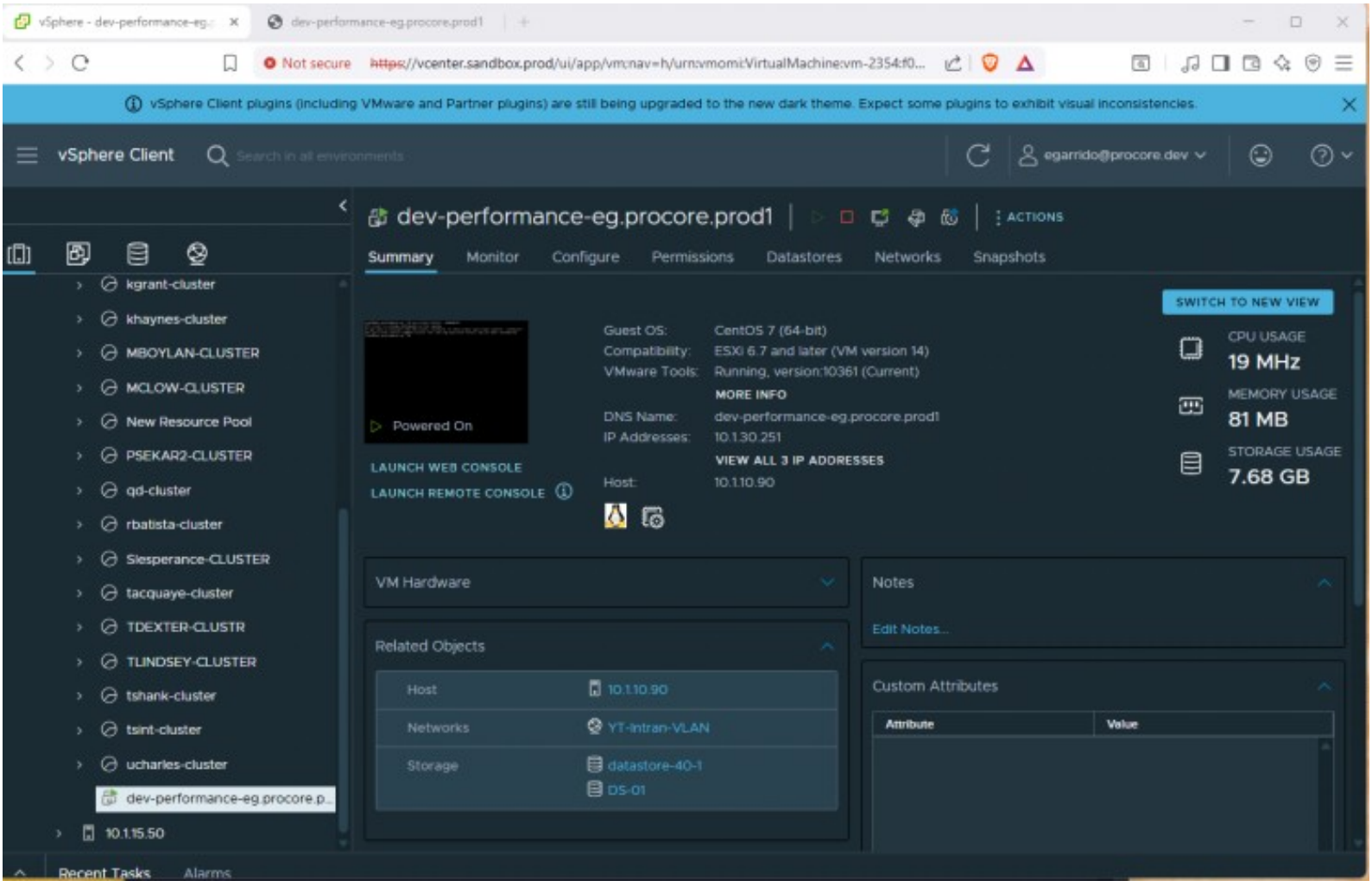
“Linux terminal session verifying the system hostname and confirming the IPA client package installation status.”



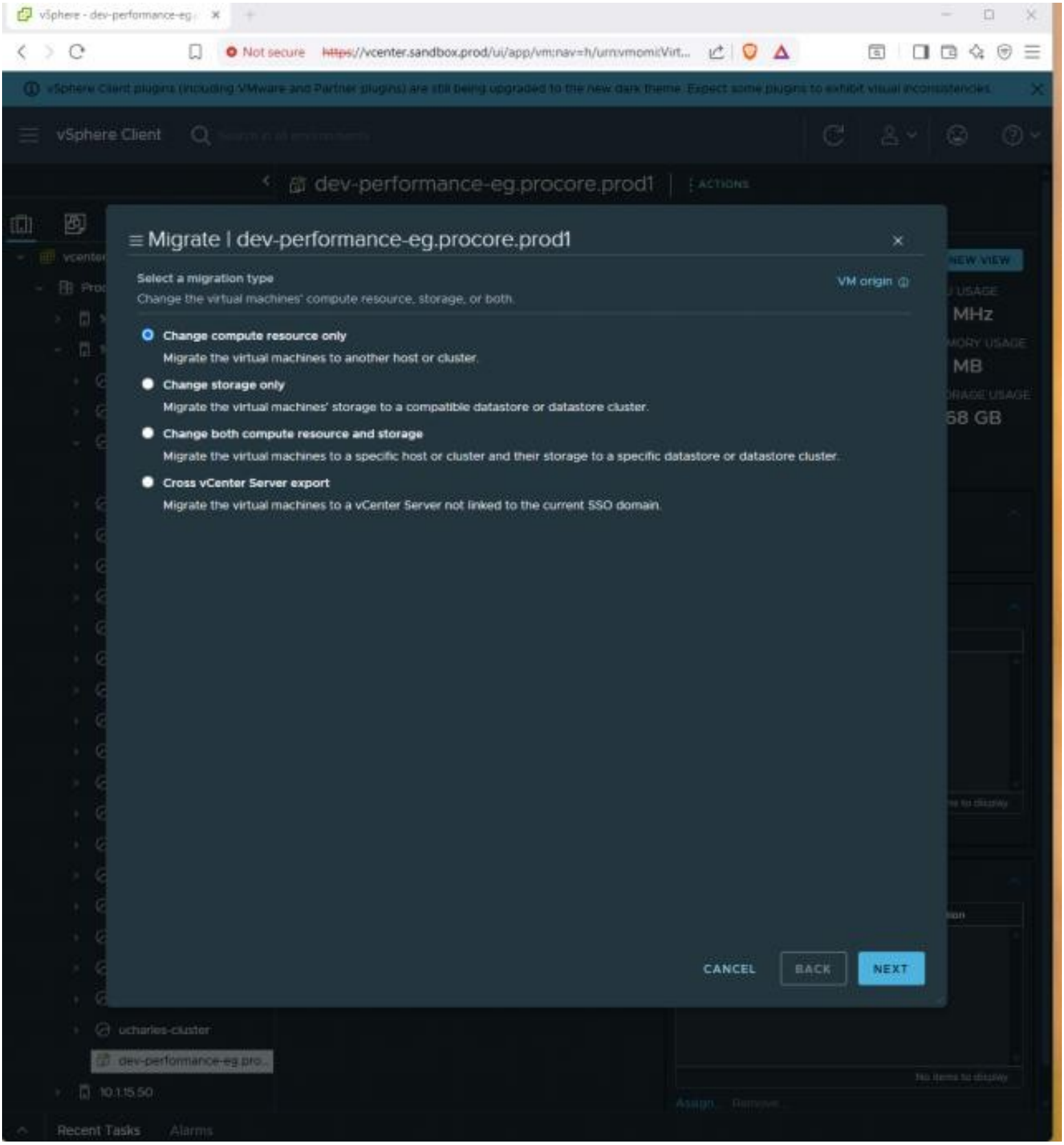
“Linux terminal output indicating the IPA client is already installed and configured on the system.”



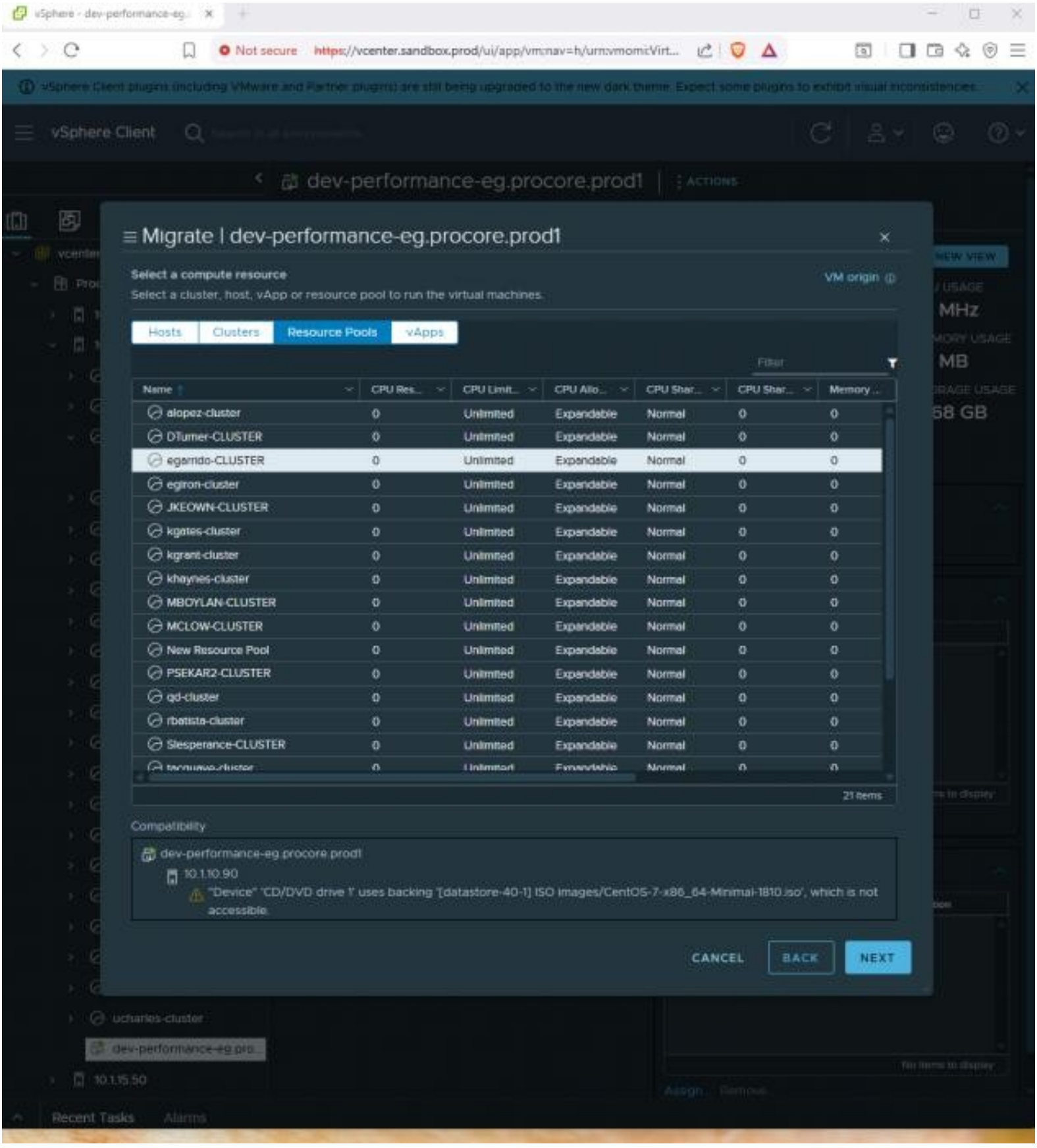
“VMware vSphere Client virtual machine summary view showing power state, guest OS details, resource usage, and assigned network and datastore.”



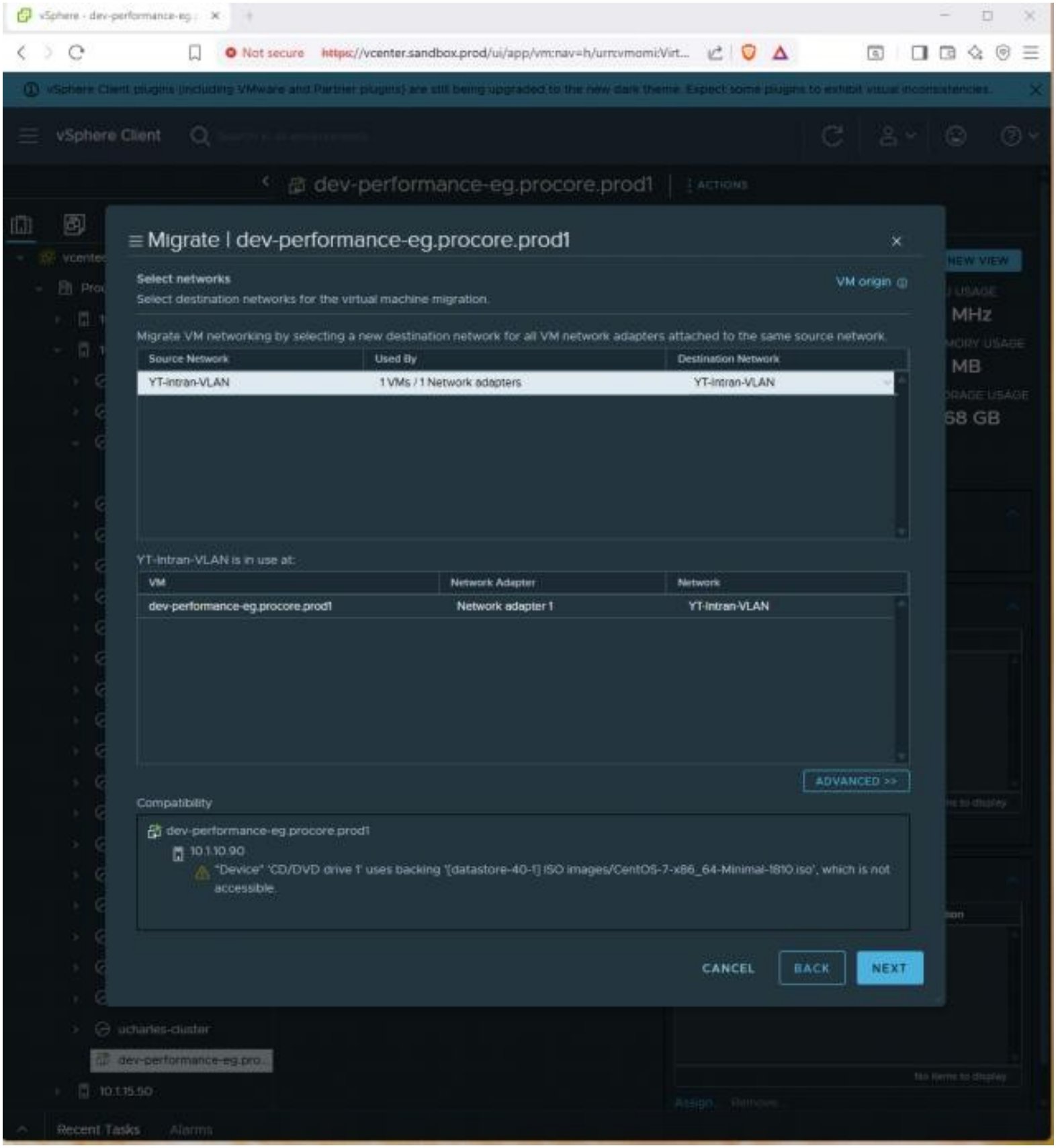
“VMware vSphere Client ‘Migrate’ wizard showing migration options for changing compute resources, storage, or both for a virtual machine.”



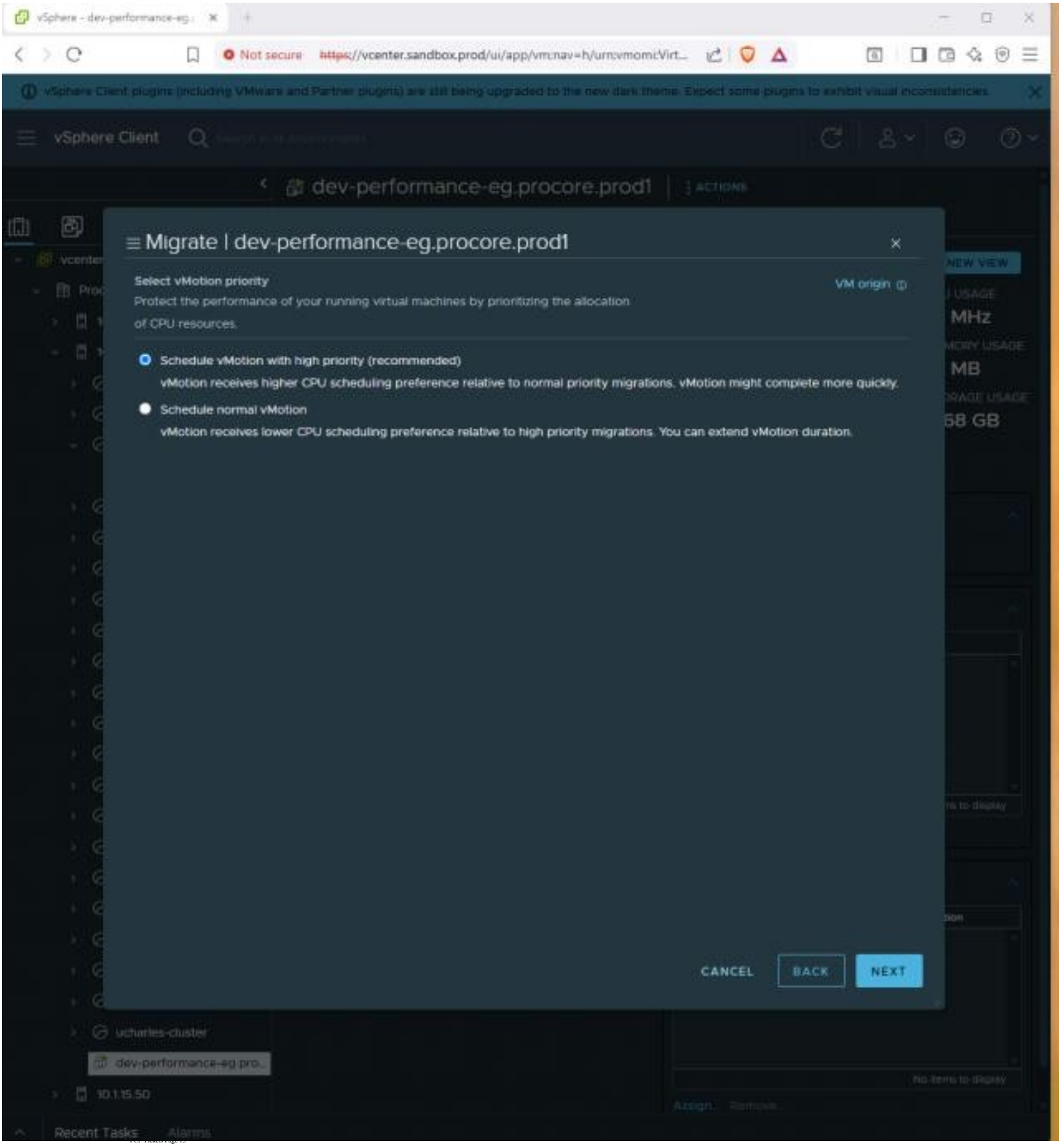
“VMware vSphere Client ‘Migrate’ wizard displaying available clusters and resource pools for selecting the destination compute resource.”



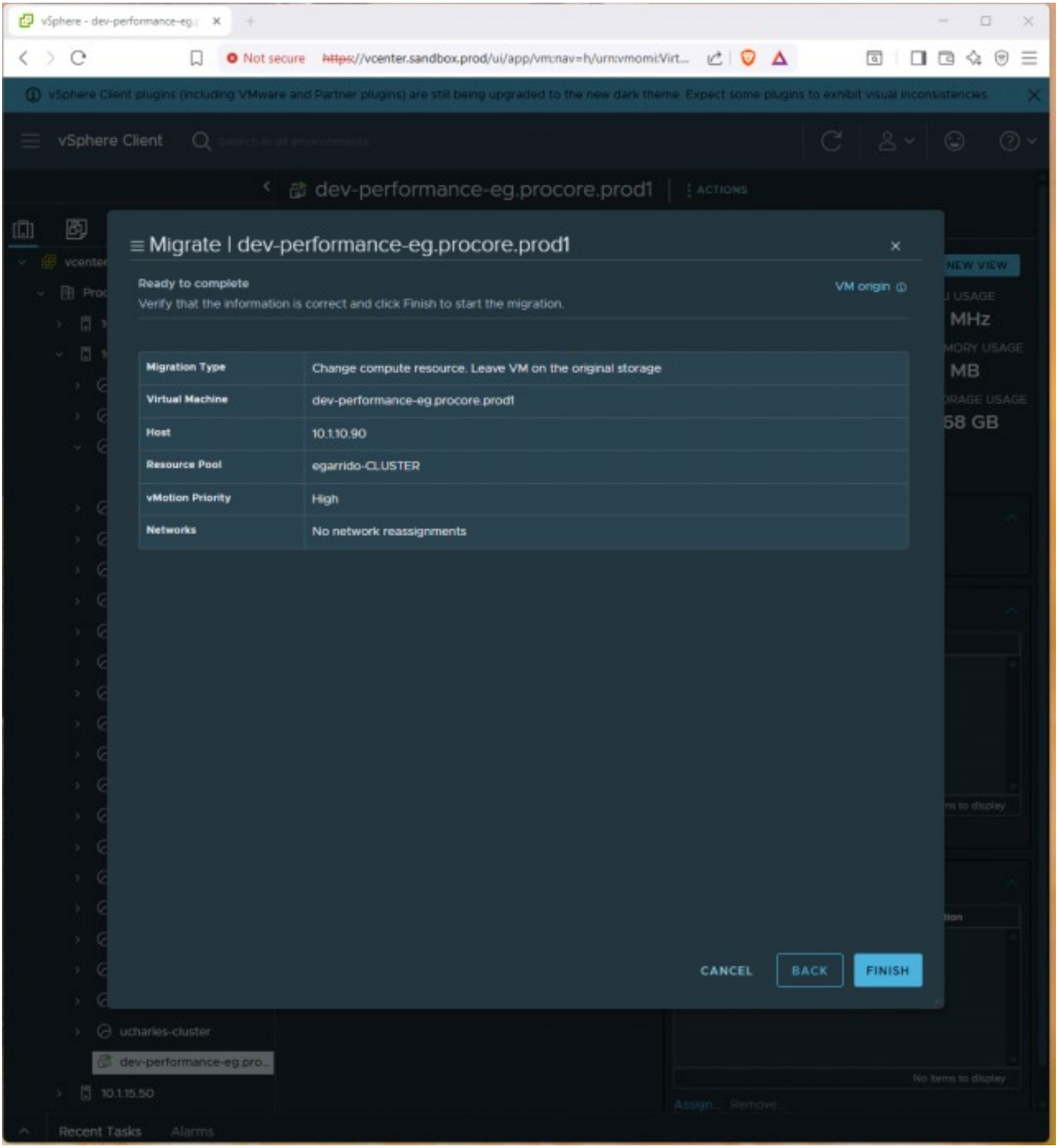
“VMware vSphere Client ‘Migrate’ wizard showing network selection and validation for virtual machine migration.”



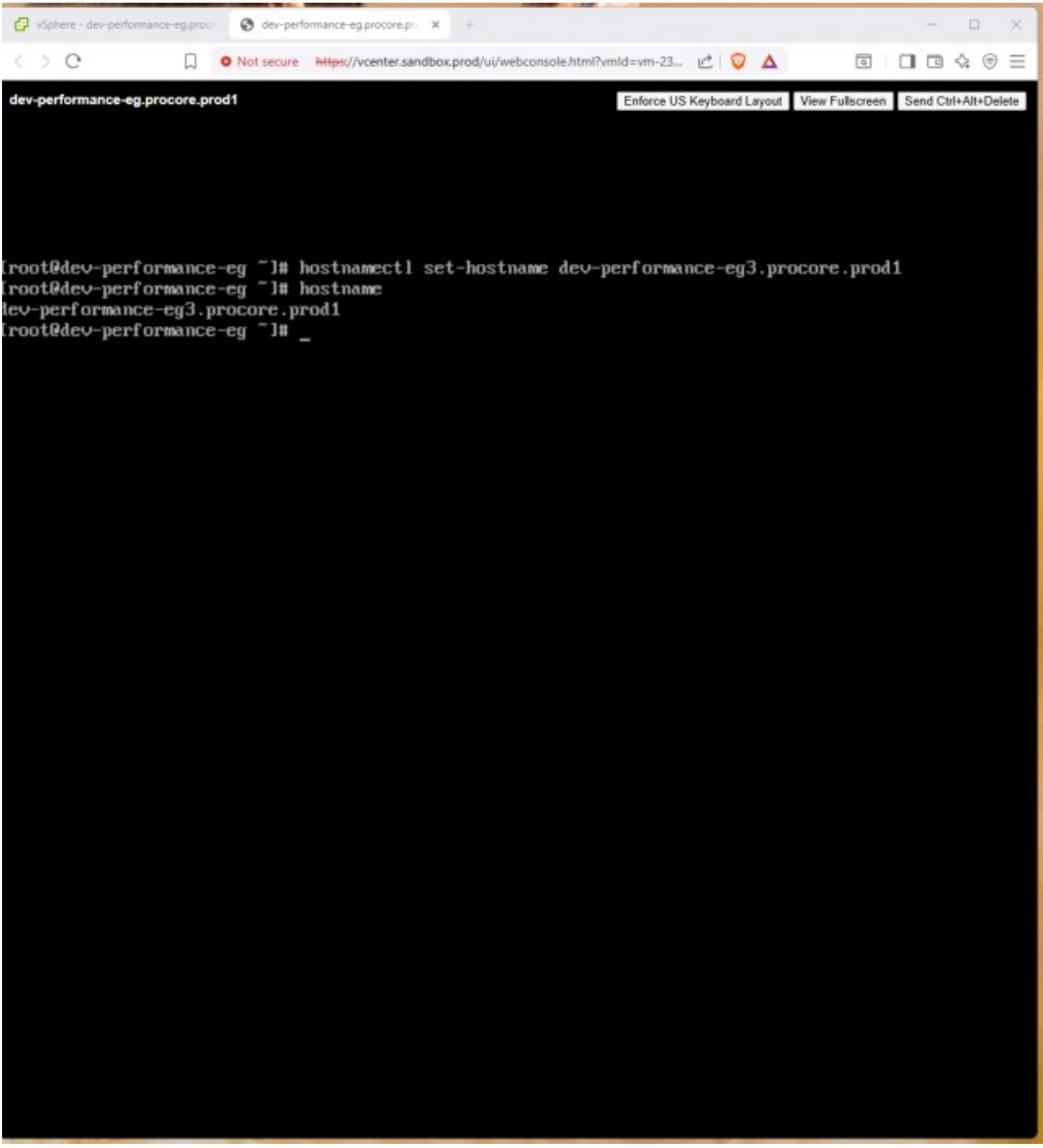
“VMware vSphere Client ‘Migrate’ wizard showing vMotion priority selection for virtual machine migration.”



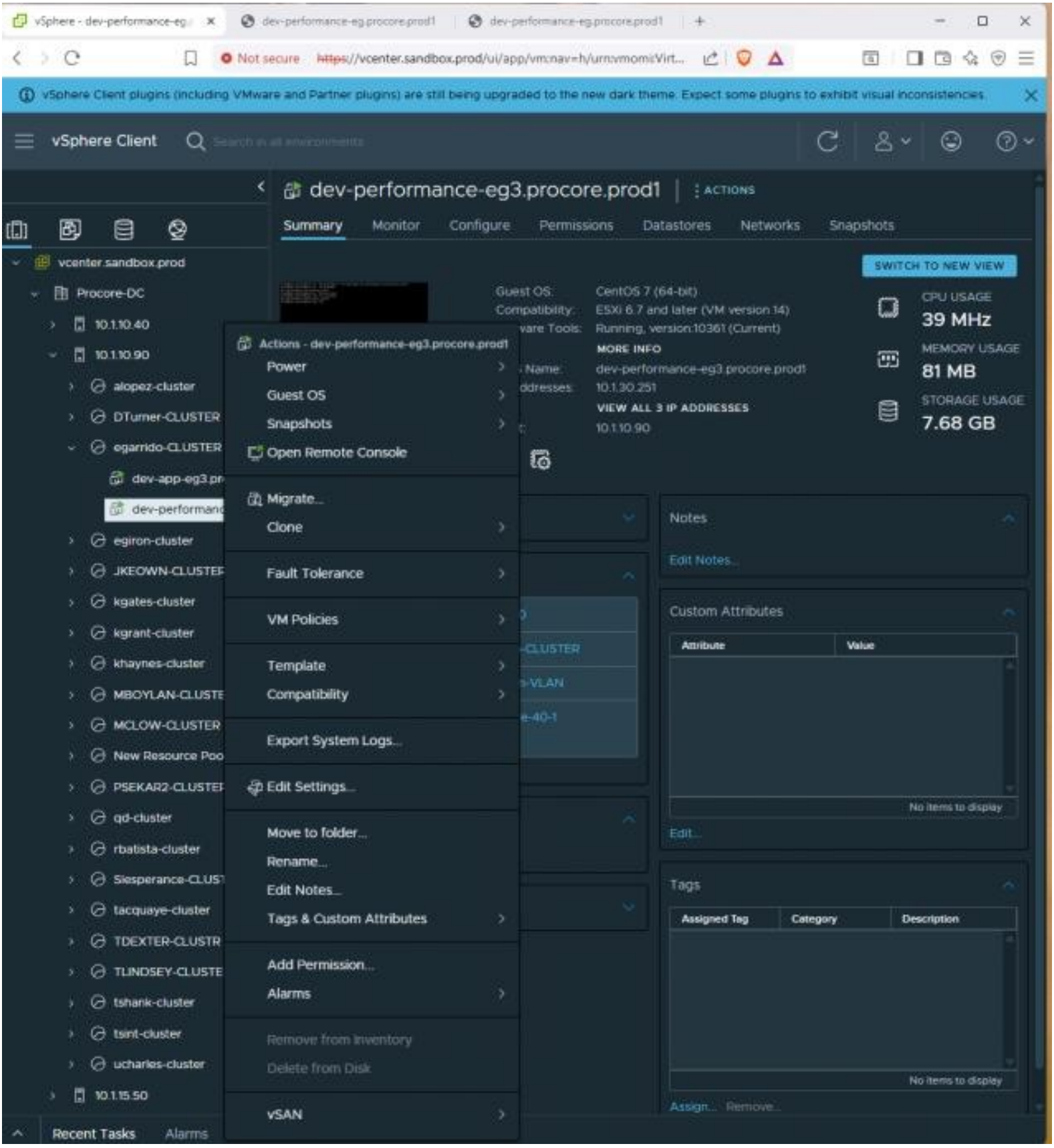
“VMware vSphere Client ‘Migrate’ wizard showing the final review and confirmation details before completing a virtual machine migration.”



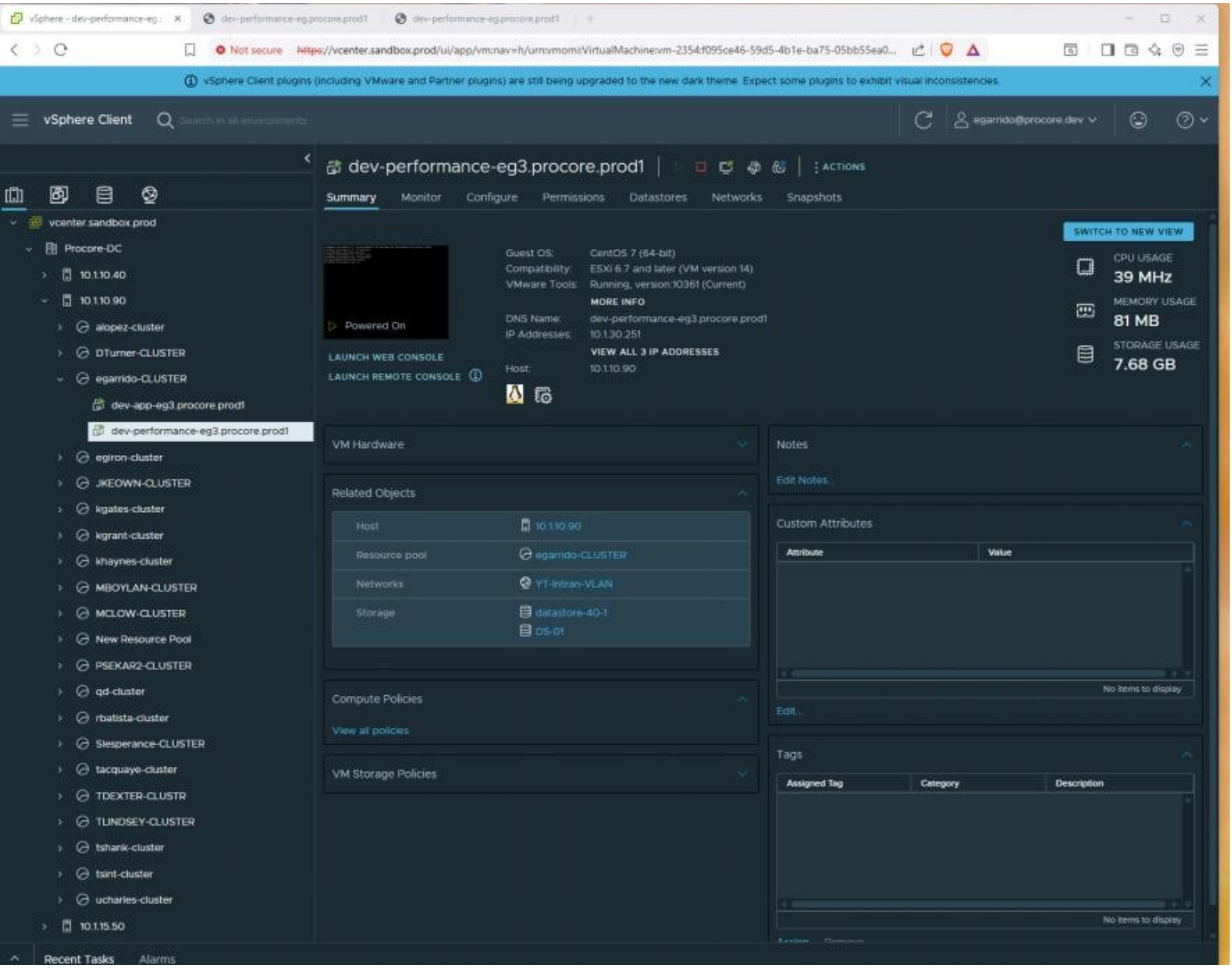
“Linux terminal session updating the system hostname using hostnamectl and verifying the change.”



“VMware vSphere Client virtual machine Actions menu showing available management options such as power control, snapshots, migration, and console access.”



“VMware vSphere Client virtual machine summary view confirming power state, hostname, resource usage, network, and datastore assignments.”



Summary

Provisioned a new virtual machine in VMware vSphere by deploying from an existing template and completing the full configuration workflow. Selected the appropriate data center, compute cluster, datastore, and network, then reviewed and finalized deployment settings. Verified successful VM creation, power state, and resource allocation in the vSphere Client. Configured networking using nmcli, validated assigned IP addresses against the IPAM spreadsheet, and confirmed connectivity. Updated and verified the system hostname to align with naming standards. Performed a live migration (vMotion) by selecting destination compute resources, validating network configuration, setting migration priority, and completing the migration. Confirmed post-migration VM status, resource usage, network, datastore assignments, and management options through the vSphere Client.