



THE APPOINTMENT OF A SERVICE PROVIDER TO PROVIDE INTERNET, FIREWALLS, VMWARE, VXRAIL, AND NETWORK SWITCHES FOR CEF SANDTON AND SANPC-REFINERY OVER A PERIOD OF THREE (3) YEARS

SCOPE OF REQUIREMENTS

1. INTRODUCTION

Central Energy Fund(CEF) a Schedule 2 state owned diversified energy company reporting to the Department of Mineral and Petroleum Resources is looking at appointing a Service Provider to provide two Internet lines, Managed Firewalls, and Network switches, VMware, and VxRails for a period of three(3) YEARS.

2. BACKGROUND AND OVERVIEW

SANPC REFINERY(Durban)'s IT Infrastructure consists of the following:

- Two internet fiber lines, One fibre line(300 Mbps-Liquid Link) which serves as the primary internet connectivity line and the other fiber link which is the fail-over/backup line(300 Mbps-OpenServer link).
- Next Generation Firewall(Fortigate-FG80F) Solution consisting of two High Availability(HA) appliances.
- The two internet links must be replaced by 500 Mbps.
- Microsoft 365 E5 License

CEF(Sandton)'s IT Infrastructure consists of the following:

- Two internet lines, One fibre line(200 Mbps-MTN) which serves as the primary internet connectivity line and the Microwave link which is the fail-over/backup line(200 Mbps-MTN).
- Next Generation Firewall(Checkpoint) Solution consisting of two High Availability(HA) appliances.
- Microsoft 365 E5 License

CEF Head Office is looking at appointing a Service Provider to provide two Internet lines(For both CEF and SANPC-REFINERY), APN, Managed Firewalls, Dell VxRail and VMWare, and network switches as specified under the scope of requirements.



VXRail

- Dell VxRail S570 **x5**

Service Tag: FW707X2

Service Tag: GW707X2

Service Tag: HW707X2

Service Tag: JW707X2

Service Tag: 1X707X2

VMWARE

VMware vSphere 6 Enterprise Plus (5CPUs)

VMware vSAN Enterprise (5CPUs)

VMware vCenter Server 6 Standard (1 Instances)

3. SCOPE OF REQUIREMENTS

3.1. PROJECT OVERVIEW

The objective of this project is to implement secure, reliable, and high-performance internet connectivity at CEF Sandton, and the SANPC REFINERY, supported by enterprise-grade firewalls configured in High Availability (HA) mode, Dell VxRail, VMware, and Network Switches for both sites.

The solution will ensure redundancy, optimized application performance, centralized visibility, and enhanced network security across both sites.

3.2. PROJECT SCOPE

3.2.1 INTERNET CONNECTIVITY

(For SANPC-REFINERY)

Provision and installation of two (2) dedicated fiber internet links at the SANPC Refinery, configured as follows:

Primary Internet Link: 500 Mbps dedicated bandwidth.



Secondary (Backup) Internet Link: 500 Mbps dedicated bandwidth.

Each link must provide:

Symmetrical upload and download speeds.

Low latency and high availability suitable for corporate/refinery operations and cloud services.

Service Level Agreement (SLA) uptime of 99.5% or higher, the SLA must be subject to penalties .

The service provider must allocate 40 public IP addresses (usable) for enterprise services such as VPN, cloud applications, and secure remote access.

The service provider must provide a guaranteed 1:1 contention ratio on the primary link and secondary link for both local and international connectivity.

NB- Two internet links must come from different internet service providers(ISP) or venders(E.g Primary Link: ISP-A and Backup Link: ISP-B.)

(For CEF SANDTON)

Provision and installation of two (2) dedicated fiber internet links at the CEF Head Office, configured as follows:

Primary Internet Link: 500 Mbps dedicated bandwidth.

Secondary (Backup) Internet Link: 500 Mbps dedicated bandwidth.

Each link must provide:

Symmetrical upload and download speeds.

Low latency and high availability suitable for corporate and cloud services.

Service Level Agreement (SLA) uptime of 99.5% or higher, the SLA must be subject to penalties .

The service provider must allocate 40 public IP addresses (usable) for enterprise services such as VPN, cloud applications, and secure remote access.



The service provider must provide a guaranteed 1:1 contention ration on the primary link and secondary link for both local and international connectivity.

NB- Two internet links must come from different internet service providers(ISP) or venders(E.g Primary Link: ISP-A and Backup Link: ISP-B.)

3.2.1.1 APN Connectivity Services for 36 Months

The Service Provider shall supply, configure, and manage a secure private Access Point Name (APN) solution that includes 300 activated SIM cards(150 eSims and 150 Physical Sims) with a combined 2 TB (2,048 GB) of recurring monthly data for use across the Client's mobile devices, routers, and IoT equipment.

The APN service shall provide secure, reliable, and encrypted connectivity between the mobile network and the Client's corporate network, ensuring data confidentiality and business continuity.

The Service Provider shall provide a web-based APN Management Portal that enables authorized administrators to activate and deactivate SIM cards, suspend and resume services, monitor real-time and historical data usage, allocate and reallocate monthly data bundles to individual SIM cards or user groups, generate detailed usage and billing reports, configure alerts and notifications for data consumption thresholds, and manage SIM inventory.

The solution shall support centralized administration, role-based access control, and audit logging. The Service Provider shall ensure high network availability, proactive monitoring, technical support, fault resolution in accordance with agreed Service Level Agreements (SLAs), and monthly service performance reporting throughout the contract period.

3.2.2. MANAGED FIREWALL SECURITY INFRASTRUCTURE

Supply, implementation and configuration of physical HA clusters at CEF Sandton-HQ and SANPC Refinery-Durban site as well as HA cloud firewall configuration in Azure.

HQ has existing HA cluster that need to be replaced with Quantum Force 3950 cluster.

SANPC site has existing HA cluster to be replaced with Quantum Force 3920 HA models.

Deploy Cloud firewall cluster in Azure.

High-availability clusters where required using ClusterXL.



Central Security Management for policy, objects, threat prevention, VPN, logging, reporting and administration.
Controlled migration and recertification of existing firewall rules, objects, NAT, VPN and threat-prevention settings.
Integration with CEF identity services, SIEM/SOC, NTP, DNS, PKI, email alerting, ticketing and monitoring systems

NB-Each site will have two firewalls configured for redundancy and seamless failover.

3.2.3. NETWORK SWITCHES

The project involves the **supply, installation, configuration, and commissioning of two (2) Core Switches and six (6) Access Switches** to provide a high-performance, resilient, and centrally managed campus network.

Core Switch Requirements

The solution must include **two modular enterprise-grade core switches** with:

- High-performance architecture providing **38.4 Tbps switching capacity** and **28,800 Mpps forwarding performance**.
- Modular chassis supporting:
 - Dual main controller boards (redundancy).
 - Multiple switch fabric units and redundant power supplies.
 - 48 × 1GbE RJ45 ports, 48 × 10GbE SFP+ ports, and 12 × 40GbE QSFP+ ports.
- Support for **chassis clustering/virtual switching** using 40GbE stacking links.
- Required optical transceivers, including:
 - 48 × 10GbE SFP+ modules.
 - 12 × 25GbE SFP28 modules.
 - 2 × 40GbE QSFP+ modules.
- Centralized management platform with **telemetry, analytics, automation, role-based access control (RBAC), and full licensing**.

Core Network Features

The core infrastructure must support modern software-defined networking capabilities, including:

- **Intent-Based Networking (IBN)** for policy-driven network automation.
- **VXLAN and EVPN** for network virtualization and overlay networking.
- Layer 2 and Layer 3 overlays.
- IP-based underlay using dynamic routing protocols such as **OSPF or IS-IS**.
- Automated service provisioning.
- Model-driven telemetry, NETCONF/YANG, and real-time analytics for centralized network management.



Access Switch Requirements

The solution must include **six enterprise-grade 48-port PoE+ access switches** with:

- 48 × 1GbE access ports.
- 4 × 10GbE SFP+ uplink ports.
- 2 stacking ports.
- **PoE+** support.
- Three redundant power supplies (N+1 redundancy).
- Switching capacity of up to **520 Gbps** and forwarding performance of **168 Mpps**.
- Support for **Intelligent Stack (iStack)**.

Access Network Features

The access switches must support:

- **VXLAN and EVPN** integration into the campus fabric.
- Layer 2 and Layer 3 network segmentation.
- Intent-Based Networking (IBN).
- Automated provisioning through a centralized controller.
- Real-time streaming telemetry using **gRPC or equivalent**.
- Continuous monitoring of devices, interfaces, traffic, and overall network health.

Overall Objective

The proposed solution must deliver a **highly available, scalable, software-defined campus network** with centralized management, advanced automation, network virtualization, real-time analytics, and redundant hardware to ensure high performance, simplified operations, and future growth.

One core switch will be deployed at the SANPC Refinery in Durban, and one at CEF-Sandton.

Three access switches will be deployed at the SANPC Refinery in Durban, and the other three will be deployed at CEF-Sandton.

3.2.4. VMWare And VxRail

Description of item	Current Environment
3 year Pro-support Plus and 4Hr Mission Critical & software support and part replacement 80 Cores of VMware vSphere Foundation and 90 TiB of vSAN Add On. Assist in applying the license to the cluster.	Dell VxRail S570 Service Tag: FW707X2 Service Tag: GW707X2 Service Tag: HW707X2 Service Tag: JW707X2 Service Tag: 1X707X2 VMware vSphere 6 Enterprise Plus (5CPUs) VMware vSAN Enterprise (5CPUs) VMware vCenter Server 6 Standard (1 Instances)



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Querying all ESXi hosts, this may take several minutes...
Sizing Results for VMware vSphere Foundation (VWF):
Host Information
CLUSTER      VMHOST      NUM_CPU_SOCKETS  NUM_CPU_CORES_PER_SOCKET  FOUNDATION_LICENSE_CORE_COUNT  VSAN_LICENSE_TIB_COUNT
-----
CEF-JHB-VxRail cefvxrail-04.  1                12                         16                             4,00
CEF-JHB-VxRail cefvxrail-05.  1                12                         16                             4,00
CEF-JHB-VxRail cefvxrail-03.  1                12                         16                             4,00
CEF-JHB-VxRail cefvxrail-01.  1                12                         16                             4,00
CEF-JHB-VxRail cefvxrail-02.  1                12                         16                             4,00
Total         -                -                      -                             80                             20,00

Cluster Information
CLUSTER      REQUIRED_VSAN_TIB_CAPACITY
-----
CEF-JHB-VxRail 110
Total         110

Total Required VWF Compute Licenses: 80
Total Required vSAN Add-on Licenses: 90
```

Name	SerialNumber	Manufacturer	Model
cefvxrail-05	1X707X2	Dell Inc.	VxRail S570
cefvxrail-01	FW707X2	Dell Inc.	VxRail S570
cefvxrail-04	JW707X2	Dell Inc.	VxRail S570
cefvxrail-03	HW707X2	Dell Inc.	VxRail S570
cefvxrail-02	GW707X2	Dell Inc.	VxRail S570

3.2.5. DELIVERABLES

The appointed service provider will deliver the following:

Two 500 Mbps dedicated fiber internet links at the CEF Sandton and Refinery (primary and backup).

A secure private Access Point Name (APN) solution that includes 300 activated SIM cards(150 eSims and 150 Physical Sims) with a combined 2 TB (2,048 GB) of recurring monthly data for use across the Client's mobile devices, routers, and IoT equipment.

Configuration and deployment of high-availability Managed firewalls at the Refinery, Azure Cloud and CEF Sandon.

Supply, installation, and configuration of the 2 Core Switches and 6 Access switches.

Allocation and configuration of 40 public IP addresses for SANPC Refinery and for CEF Sandton.

VxRail and VMWare Licences.



All network equipment provided/supplied will need to be insured by the service provider to cover theft, damage and any act of God(lightning or Thundetstorm e.t.c) that will take place for the duration of the contract across all sites.

Documentation of:

Network configuration, topology and IP addressing scheme for both CEF Sandton and SANP-Refinery.

Managed Firewall configuration for both CEF Sandton and SANP-Refinery .

Security and failover testing reports for both CEF Sandton and SANP-Refinery .

Training and knowledge transfer to CEF Sandton and SANPC Refinery ICT technical staff.

36-month post-implementation support and monitoring for both CEF Sandton and SANP-Refinery.

3.2.6. SERVICE LEVEL REQUIREMENTS

Internet link uptime: 99.5% or higher.

Firewall HA failover time: < 10 seconds.

Support response time:

Critical incidents: within 1 hour.

High-priority issues: within 4 hours.

Normal issues: within 8 business hours.

4. PRICING SCHEDULE

4.1. FULL SCOPE OF WORK PRICING SCHEDULE



Description	Once charge any)	off (if	Monthly charge	1 st Year Total	2 nd Year Total	3 rd Year Total	Total Per line item over 3 years
500Mbps SANPC-REFINERY primary fibre line	R		R	R	R	R	R
500Mbps SANPC-REFINERY backup fibre line	R		R	R	R	R	R
500Mbps CEF Sandton Primary fibre line	R		R	R	R	R	R
500Mbps CEF Sandton backup fibre line	R		R	R	R	R	R
APN	R		R	R	R	R	R
Managed Firewall Solution(For three sites)	R		R	R	R	R	R
Network Switches(2 Core switches and 6 Access switches)	R		R	R	R	R	R
Support/Service management /Service desk (For both Sites)	R		R	R	R	R	R
Static public IP addresses (For only SANPC Refinery)	R		R	R	R	R	R
VMware License	R		R	R	R	R	R
Dell VxRail License	R		R	R	R	R	R
Other costs (if any)	R		R	R	R	R	R
Total Excl.VAT							R
VAT							R
Total Inc.VAT							R
Note this table is a template and must be amended accordingly to ensure Bidder has included all foreseeable costs to render, INTERNET, FIREWALL, VMWare, Dell VXRail and Network Switches as per full CEF Sandton and SANPC-REFINERY scope of requirements including escalations in prices over the 3-year period							



5. LOCATION AND SIZE OF THE SITE:

Site Name.	Location	Approximately users
CEF-Sandton	Sandton in Gauteng	200
SANPC-Refinery	Prospecton in KZN	100