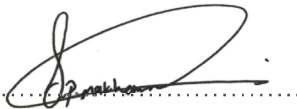


**The Scope of Work for the design, development,
supply, and delivery of a Centralised OT
Configuration Management System for NTCSA**

**SCOPE OF WORK: Design, Development, Supply, and Delivery of a Centralised OT
Configuration Management System for NTCSA**

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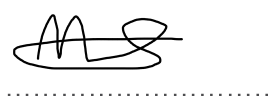
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The Scope of Work for the design, development, supply, and delivery of a Centralised OT Configuration Management System for NTCSA

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The Scope of Work for the design, development, supply, and delivery of a Centralised OT Configuration Management System for NTCSA

1. INTRODUCTION

National Transmission Company South Africa (NTCSA) Operational Technology (OT) comprises several physical-equipment-oriented technologies (operational systems, network assets, OT equipment) that it utilises to perform critical functions in delivering dependable, fair, and affordable access to the electricity grid and the market. In NTCSA's substations or other relevant sites, there are devices, and for these devices to operate in a required manner, they need to be configured. There are approximately 200 substations, and each substation has approximately 30 OT devices. Different teams/personnel are working at these different substations/sites; some are not available at certain times, and some leave the business. Hence, the configuration management process is decentralised and prone to many discrepancies in the version control of configuration files. This includes having to revise and update configurations on similar equipment implemented at different substations.

Therefore, to address these discrepancies that arise from configuration files being stored and managed on different configuration management systems and, in some cases, on individual personal computers, NTCSA has undertaken an approach to integrate different configuration management systems into a single version of truth for a digital, centralised, remotely accessible OT configuration management system. The solution enables configuration file control, user-based access, information security, and cyber-resiliency. This solution will eliminate discrepancies when it comes to version configuration file management, which has been observed during technical investigations and prolonged fault-finding due to wrong configuration file versions.

The purpose of this document is to outline the scope of work for the design, development, supply, and delivery of a Centralised OT Configuration Management System for NTCSA, where the standard 240-185000397 details the requirements for this project. The document also outlines the safety and evaluation criteria.

2. SUPPORTING CLAUSES

2.1 SCOPE OF WORK

2.1.1 Purpose

The purpose of this document is to ensure that the supplier/vendor complies with the requirements of the purchaser on-site. The supplier's duties are required to comply with the following, but not limited to:

- Ensuring the safety of people, equipment, and infrastructure at the Purchaser's premises or relevant sites.

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2.1.2 Applicability

The scope of this document applies to the NTCSA OT (National) business area and the selected supplier.

2.2 Normative/Informative References

Parties using this document shall apply the most recent edition of the documents listed in the following paragraphs.

2.2.1 Normative

- [1] Centralised OT Configuration Management System for NTCSA - 240-185000397
- [2] ISO 9001 Quality Management Systems
- [3] Occupational Health and Safety Act

2.2.2 Informative

N/A

3. DEFINITIONS AND ABBREVIATIONS

3.1 DEFINITIONS

Definitions	Explanations
Supplier/Vendor	A person or company that undertakes a contract to provide materials or labour to perform a service or do a job.
Purchaser	A person or company that, through a contract, consumes materials or labour for a service or a job.

3.2 ABBREVIATIONS

FAT	Factory Acceptance Test
NTCSA	National Transmission Company South Africa
OT	Operational Technology

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The Scope of Work for the design, development, supply, and delivery of a Centralised OT Configuration Management System for NTCSA

SAT	Site Acceptance Test
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4. SCOPE OF WORK

The scope of work is for the design and development, supply, and delivery of a Centralised OT Configuration Management System for NTCSA. This is to be a once-off product delivery with contracts in place for response times and support availability from the system supplier. Furthermore, the supplier must provide maintenance and support for at least 5 years, including training for at least 2 years, which must be in line with maintenance and support standards for NTCSA. The purchaser should retain an option to extend the request for support and maintenance. The purchaser reserves the right not to award or extend contract/s as per the above.

The required solution comprises hardware to host the systems, software, application, and associated licensing. The solution will enable NTCSA to centrally configure and manage its OT configuration files, primarily the secondary plant and other related equipment. The scope of work includes the following:

1. Design and engineering (tailor-made or off-the-shelf to fit the specification)
 - a. Hardware
 - b. Software
 - c. Licensing
2. Supply and delivery of:
 - a. Hardware
 - b. Software
 - c. Licensing
3. Deployment services for:
 - a. Installation
 - b. Configuration
 - c. Migration of existing files
 - d. Testing (FAT and SAT)
 - e. Commissioning
 - f. Handover
 - g. Maintenance
 - h. Support
 - i. Training

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5. ROLES AND RESPONSIBILITIES

The following section outlines the roles and responsibilities of the purchaser and the supplier.

5.1 ROLE OF THE PURCHASER

NTCSA, the purchaser, shall provide:

1. Access to facilities as and when needed.

5.2. SUPPLIER RESPONSIBILITIES

The selected supplier shall provide:

1. Design and engineering (tailor-made or off-the-shelf to fit the specification)
 - a. Hardware
 - b. Software
 - c. Licensing
2. Supply and delivery of:
 - a. Hardware
 - b. Software
 - c. Licensing
3. Deployment services for:
 - a. Installation
 - b. Configuration
 - c. Migration of existing files
 - d. Testing (FAT and SAT)
 - e. Commissioning
 - f. Handover
 - g. Maintenance
 - h. Support
 - i. Training

6. OCCUPATIONAL HEALTH AND SAFETY REQUIREMENTS

The supplier shall provide the following:

- Annexure B (Acknowledgement of NTCSA's rules & requirements)
- Valid letter of good standing or equivalent

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7. SIZING REQUIREMENTS

To assist with pricing, the following approximate numbers are provided.

Table 1: Centralised OT Configuration Management System for NTCSA sizing requirements

Host/Device Type	Quantity	Comment
Application Server	X2	- Main application server, - Secondary application server
Data Server	X2	- Main database server, - Secondary database server
Local HMI Unit	X1	To be used for administration purposes and troubleshooting the system and other system support features
Firewall	To be determined by the supplier as part of the design	To provide and support for uninterrupted power supply to the system
Power backup and cooling equipment	To be decided by the supplier as part of the design	To provide and support for - uninterrupted power supply to the system - hot-standby redundancy - Cooling of electronic equipment and its housing
Hardware housing and other miscellaneous	To be determined by the supplier as part of the design	To provide and support for - Housing and mounting hardware equipment, such as the use of a 19-inch rack or alternative mounting equipment fit for the design - Cabling and connectors - Ethernet Switch and etc.

None hardware items are not listed on Table 1. These items include, but are not limited to, service contract/licensing, engineering, installation, and consultancy services; furthermore, the training, etc., are to be sized and priced according to the supplier and purchasers' standards. Figure 1 depicts the system architecture overview for the Centralised OT Configuration Management System. This is not cast in stone design; however, a guide to how the system is envisioned by the purchaser, changes due to the design and engineering may affect the architecture.

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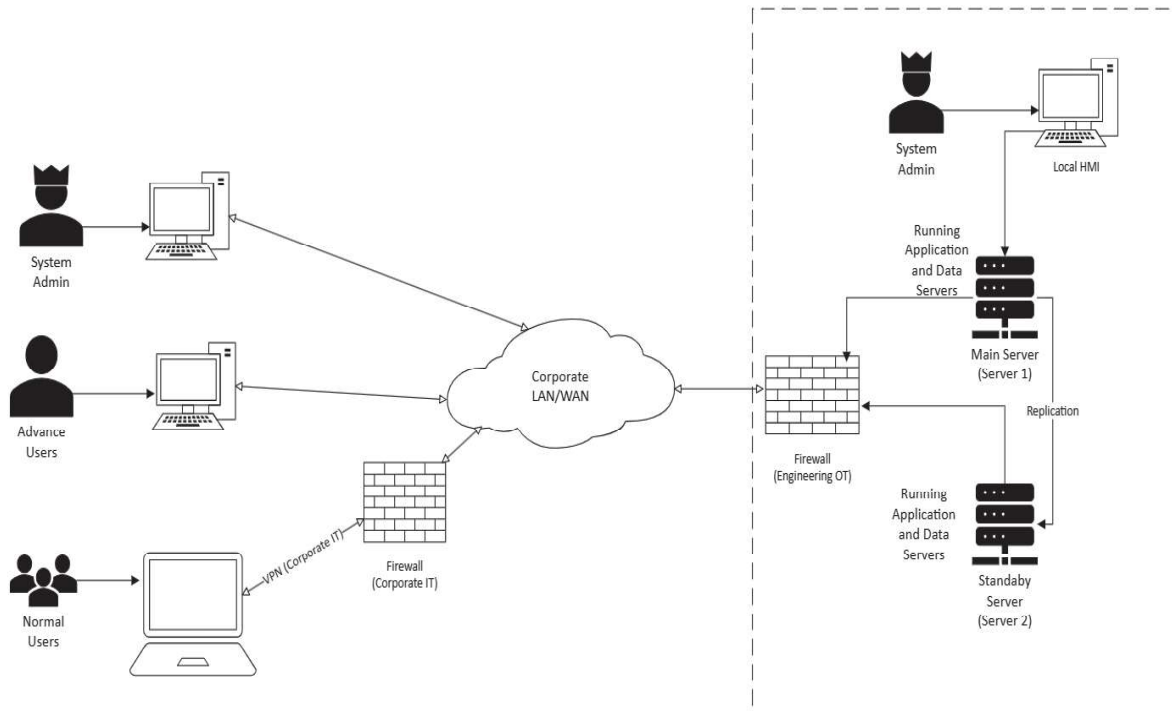


Figure 1: Centralised OT Configuration Management System Architecture Overview

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