Appendix D: Content Management System: Technical Platform Specification

1 Scope

This document serves as a specification of the current technical platform the CMS must be deployed in. Development of the CMS system must be based on any constraints or opportunities included in this specification.

This platform specification must be read in conjunction with the following documentations:
CMS Data Model (online only)
CMS Functional Design Specification (and Appendix A)
CMS User Requirements Specification

2 Key Words, Abbreviations and Acronyms

The following key words and abbreviations are used in this report. The detailed definition and description of any content item can be found in the CMS data model attached as Appendix C.

CMS	Content Management System
TPS	Technical Platform Specification
FDS	Functional Design Specification
GSC	Government Structure Component: An organisational unit within government
Content Item –	Any piece of content that is maintained in the CMS
WCPG	Western Cape Provincial Government
PAWC	Department Provincial Administration Western Cape
KEEG	Branch: Knowledge Economy & E -Government
SITA	State Information Technology Agency
WAN	Wide Area Network
LAN	Local Area Network

3 Technical Platform Specification

3.1 Introduction

A technical design of the system was done to precisely define how the system will function in the network based application development environment and the Microsoft Windows operating environment within WCPG.

3.2 Desktop Specifications

The minimum desktop standard within PGWC is as follows:

Minimum desktop specifications	
Operating System (O/S)	Windows 95/2000 (95 being phased out)
Processor	Pentium II
Memory capacity	64 (128 +) MB RAM
Hard drive capacity	8 (8+) GIG
CD Rom	Yes
Desktop applications	Microsoft Office suite 97/2000
Browsers supported for viewing	Microsoft Internet Explorer Ver.5.0

3.3 Desktop support

The IT helpdesk is the primary contact for all users requiring help on the WCPA network. Calls are then generated which will be passed onto the frontline Support Company. Server and Infrastructure support provide backend processes, which are transparent to the end user.

The aim is to resolve problems experienced by the end-users, pertaining to the network, desktops, laptops, local area networks, wide area networks (escalated to SITA), office automation, Internet and e-mail (GroupWise) as well as maintenance & enhancements of applications developed by IT staff.

The IT helpdesk provides the end-user with a single point of contact that automatically routes the service request to the appropriate resource.

For the CMS application support all user related queries would be dealt with as a first line of support by the Cape Gateway Call centre in the following manner. The Content Management support team will escalate technical queries to the Cape Gateway Development team.

Helpdesk support process:

- User logs call with Cape Gateway call centre;
- User related requests are routed to Content Management support team or the appropriate system owners/administrators of the CMS;

- Technical related change management requests (enhancements) are escalated to Cape Gateway development team;
- This is escalated to a technical support workgroup (comprising of IT project manager, System analyst, Cape Gateway Development project leader; Vendor project manager);
- The technical feasibility and cost effectiveness of the enhancement is assessed by this workgroup;
- If approved the request for enhancement is forwarded to the company (Vendor);

3.4 Database Specifications

The Content Management System will utilise the Oracle 8i as the backend database. The physical design of the database still needs to be implemented.

Harware and Software specifications	
Operating System	Unix AIX 4.3.3
Database version	Version 8i (8.1.6)
Hardware (both boxes are attached to an EMC Raid dusk server and a Wolfcreek tape backup library)	2 * RS6000 • B80: 2CPU's (332Mhz); 2GB RAM • H80: 2CPU's (450Mhz); 2GB RAM
XML compliant	Yes

The database administrator at SITA did an assessment on the CPU and memory usage on 29 August 2002. The average CPU usage was 80% idle and the peak was very difficult to assess. The average memory usage on 1 machine was 30%, with the peak 60%. The other box performed at half this rate.

3.4.1 Backup

The CMS is a transversal system that will be utilised by users internal and external to the administration and the aim is to edit and update data on a 24 hr basis. It will be backed up on a daily/weekly basis. The technical backup and restore procedures are the responsibility of SITA, which will be addressed, in the relevant service level agreements.

3.5 WAN Infrastructure

The Wide Area Network (WAN) infrastructure has various (approximately 120) leased line WAN connections, with speeds ranging from 64 Kbps to1.54Mbps. The typical speeds are however 64Kbps sharing various applications across this bandwidth. WAN traffic is predominantly TCP/IP routed through Cisco infrastructure.

The WAN infrastructure utilises the SITA backbone. This environment consists of Town Concentrators (routers linking the various towns in an area), linking to core Metropole areas via a shared link, typically 256 Kbps.

The connection to the Internet is to the UUNET network, via the SITA Cape Town hub.

The CMS database will be hosted at the SITA hub in Cape Town, which is central to their provincial component of their WAN.

Any network intensive WAN applications should be written in such a way as to alleviate WAN congestion.

3.6 LAN Infrastructure

The PAWC IT Local Area Network infrastructure uses a 3-tier model made up of Core layer, Distribution layer and the Access layer. The typical user desktop is connected to the Access layer via 10/100Mbps Ethernet connection. This in turn is connected to a dual unit in the Distribution layer via a minimum 1Gbps Ethernet connection. The Distribution layer is connected to the Core layer via a minimum 1Gbps Ethernet connection that in turn is connected to Routers for connection to the WAN. The above is the typical model however it must be noted that some sites, notably with smaller concentration of users could have the following data flow connections:

- From Access Layer straight to the Router.
- From Access layer to Core layer to the Router.

The data flow connections at the various sites typically ranges from minimum 1 to maximum 3 layers.

PAWC IT are striving to enhance all sites to the 3-tier model as well as moving away from the hub environment to a fully switched environment.

3.7 Quality Control

The developers and project leader of the successful vendor company must ensure that the development complies with acceptable programming standards. After completion of the development, and during the alpha test phase a quality assurance test/audit must be done on the system to ensure that it complies within standards.