



Environmental Information Systems Architecture

Version 200607

To ensure compatibility with the DEW information technology infrastructure and existing information systems, applications developed must conform to the technical requirements outlined in this section unless a strong case for not doing so is identified.

Relational Database Management System.

Oracle version 10g Enterprise Edition is the Department's strategic database environment. Any product proposed will host data in this platform.

Development Software

Strategic development environments within the Department include

- Oracle Internet developer suite
- Discoverer 5i for end-user reporting
- Microsoft access for limited distribution products; used in either stand-alone or client-server using Oracle as the repository
- Oracle Application Server 10g for multi-tier web based products; using PLSQL or Java (J2EE) as development languages
- Perl 5 for multi-tier web based products
- JDBC, ODBC or OLAP for connectivity to Oracle

Proposals will include detail on proposed technologies, however, they must be consistent with the Department's strategic development platform.

Developers will need to observe the Department's guidelines for developers that identify principles to be taken into account when developing applications in DEW.

Web Server

Web applications will be hosted on the departmental web server within the Internet Gateway Environment (IGE). Options available include Sun Solaris and Apache 2 Web Server or alternately (NOT PREFERRED) Windows 2003 and Internet Information Server. Tender responses must include details of the proposed server platform.

Browser, HTML, Scripting and Other Requirements

All web pages with the site must be upwardly compatible from version 5.5+ of Microsoft Internet Explorer and version 5.x of Netscape. This includes ensuring all dynamic element/form validation implemented through the use of Cascading Style Sheets and JavaScript operate correctly on a variety of platforms (Windows/PC, UNIX, Macintosh etc.).

All web pages with the site must also comply with the following technical requirements:

- have a high degree of usability and functionality, with clear navigation tools and a minimum of decoration

- observe the Department's Electronic Publishing Guidelines, Internet publication policy and Style Guide
- be simple to maintain in-house
- adhere to departmental Accessibility Guidelines (WAI priority AA and where possible priority AAA)
- be XHTML 1.0 (strict or transitional) compliant (the completed site must be validated with a recognised HTML version tool such as provided by the W3C at <http://validator.w3.org>)
- will not use plug-ins such as Flash and Shockwave
- not use frames where possible
- the site must be streamlined for access by people with limited bandwidth, or slow and erratic internet connections
- all client side script must be upward compatible with JavaScript 1.2
- all server side processing must be done using technologies approved by the Department (tender responses must include details of the proposed approach/technologies)
- XML to be used where possible, particularly for data transmission and acceptance.

The web application will need to fully adhere to these requirements.

Resolution and Colours

The design should optimally support a screen resolution of 800 x 600 pixels but still be useable with lower or higher resolutions. The web browser 'safety palette' must be used for all web pages and GIF images.

Networks

A 100Mbit link connects the internal departmental backbone to the IGE. A 4Mbit link is used to connect the IGE to the Internet. The internal network is 100Mbit/sec switched.

GIS/Spatial

The Department currently uses ESRI-based products as a platform for spatial information delivery. This platform comprises the ESRI ArcGIS system consisting of three key integrated parts: ArcGIS Desktop software; ArcSDE, an interface for managing data in a database management system; and ArcIMS software, an Internet-based GIS for distributing data and services. Any proposed solution will be consistent with this platform.

Standard Operating Environment

The Department's standard operating environment is currently Windows 2003. General users do not have the ability to install software. Any software installs required for applications to work will have to be performed by Volante, the Department's IT Service Supplier.

Virtual Private Network (VPN)

The Department has installed a VPN which will allow the encrypted access the Department's network, including GroupWise, File Servers and databases.

Secure Gateway

CyberTrust provide secure Gateway services for the Department. Any changes to the firewall policy needs to be approved by the Chief Information Officer and must be in line with the Protective Services Manual and the ASCII 33 standard.