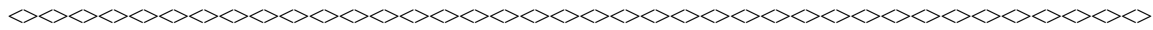


Standards

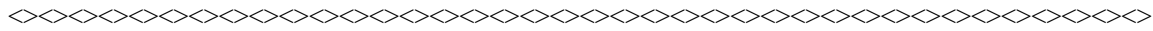


Standards in the Statewide Technical Architecture document:

- Apply to the technical topic under which they reside
- Are a specific implementation of a technology
- Are proposed for approval by the IRMC, and will be required by the agencies
- Should be a declarative statement, which begins with an action verb
- Are mandatory (as opposed to desirable) RFP items

The structure of the Standards section is:

- The stated Standard (should be one sentence, and start with “Standard #:”)
- An optional paragraph to clarify the Standard, only if necessary (may be expressed in terms of paragraphs, graphics, bullets, or tables)
- A title line, “Rationale”
- Bulleted rationale items



The standards listed below have been established for the server platform architecture.

Standard 1: Run Distributed application servers on platforms supporting “open” operating systems.

Rationale

- Open operating systems *are available* from multiple vendors, such as UNIX
- Open operating systems *run on* hardware available from multiple vendors, such as Windows NT.
- Open operating systems are in the public domain, but have significant industry support, such as Linux.

Standard 2: Make sure server platforms are POSIX compliant.

Rationale

- POSIX is an IEEE standard designed to facilitate application portability and interoperability. This facilitates movement of applications from one platform to another if needed.

Standard 3: Make sure server platforms comply with third party certifications:

UNIX	Microcomputers
Manufacturer is ISO 9002 certified	Manufacturer is ISO 9002 certified
XPG4 Branded UNIX 93	Gartner Group Tier 1 or Tier 2 classified

Table 9-2. Third Party Certifications for Server Platform Standards

Rationale

- Third party certifications foster quality product purchases from manufactures that have demonstrated abilities to deliver and support these products.

Standard 4: Use NetWare Directory Services (NDS) for directory services. File and print can use NOS services on Local Area Networks (LANs).

Rationale

- Directory services are a key component of the enterprise’s infrastructure. Standards are being developed for enterprise directory services. NDS is widely available and a useful interim standard affording an easy migration path should it be necessary.
- There is an immediate and continuing demand for the purchase and installation of Local Area Network (LAN) operating systems or file systems. Although statewide standards for such system components are being developed, they are part of a larger, more complex specification. In the interim, consistency among immediate purchases, such as NDS, eases the burden of maintenance, may reduce the purchase costs, and will greatly simplify migration to the new standard when it is in place.
- For more information on directory services, see the Groupware Chapter of the Statewide Technical Architecture.

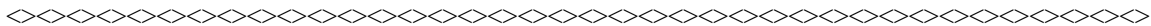
Standard 5: Servers must be secured in such a way as to ensure security, availability and reliability.

Rationale

Application servers run the state’s business. They must be physically secure, reliable and available for processing. In order to ensure this, the following are requirements for servers:

- They must have UPS with a battery backup sufficient to meet the minimum up-time as described by the data criticality.
- UPS should be capable of issuing a warning and optionally call via a pager the responsible personnel.
- Access should be restricted to authorized personnel only.
- Must meet security policy standards.

Related Information

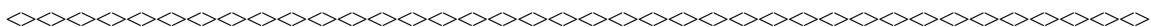


Related Information in the Statewide Technical Architecture document:

- Applies to the technical topic under which it resides
- May contain pointers (online links or pointers to documents or information) to related information
- Should list any state contracts that are in place related to this technical topic
- May contain any supporting information about the technical topic (e.g., an agency/department/group that might be identified with a recommended best practice, or the state center of competency that might exist for a particular technology)

The structure of the Related Information section is:

- The information may be expressed in terms of paragraphs, graphics, bullets, or tables.



- State contracts are available for purchasing server platform components, as shown in Table 9-3 and Table 9-4.

Platform	Processor	Operating System
Server	Intel	UNIX
	RISC	

Table 9-3. UNIX State Contract for Servers

Platform	Processor	Operating System
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Server	Intel	Windows NT
	RISC (Alpha, PowerPC)	OS/2

Table 9-4. Microcomputer State Contract for Servers

- More detailed information about these contracts may be found on the state's world wide web page (refer to www.doa.state.nc.us/PandC/250sa.htm).
- *Note:* N-tiered application components can be developed and deployed on the MVS ES9000 mainframe located at SIPS. In addition, the mainframe can be used as a database server.

Technical Topic 2: Client Platform Architecture

Introduction

Client Platform Architecture encompasses the user interface, and in some cases, an operating system associated with that interface. Examples of platforms that may consist of just the interface, or the interface plus an operating system are 3270 terminals, voice response units, barcode readers, automated teller machines, hand-held devices such as PDAs, smart cards, and personal computers. Examples of operating systems that may be associated with some of these interfaces, are Windows 95, MVS, Java Virtual Machine, and smart card operating systems.

A personal computer is a client platform that consists of an interface and an associated operating system. The operating system might be Windows 95, or UNIX, for example. A barcode reader, on the other hand, is a client platform that consists of an interface without an associated operating system. The number of devices reflects the varied functions and operating environments in the state. Law enforcement, for example, often requires mobile devices; the Department of Public Instruction may use bar code readers for inventory management.

A number of factors are driving changes in platforms and how platforms are used in the state:

- A transition from character cell terminals to graphical user interfaces (GUIs).
- The increased potential for interconnectivity and mobility with open networks.
- The growth of Electronic Commerce.
- Advances in technology and standards.

As the state conducts more of its business electronically, it will take advantage of an increasing variety of platforms. A traditional view of client platforms as data entry devices such as terminals and personal computers will change to a recognition that multiple devices will play important roles in managing the enterprise's business.

As different platforms are used to conduct business, the operating systems, application and host software accessing those platforms may not inter-operate. This will limit the use of common software services and increase maintenance costs for developers across the enterprise. For example, if two agencies are using different barcode readers and host software, this requires duplication of the same functionality. It will become more important to standardize interfaces in order to share resources while maintaining flexibility of choice in clients.

Client platforms are important considerations in building applications. The variety of platforms needed and available require careful application design. See the Application Architecture chapter for application design criteria.

Client Platform Architecture will be discussed in terms of two technology components - Host-Controlled Client Platforms and Processing-Capable Client Platforms.

Host-Controlled Client Platforms

A client platform that does not have an operating system associated with it is considered a host-controlled client platform.

Generally, it is connected to a mainframe, which has a central processing unit (CPU). Because the interface cannot be programmed itself, it is limited to whatever processing is provided by the connected CPU. Most host-controlled client platforms are strictly data capture or input/output devices.

Processing-Capable Client Platforms