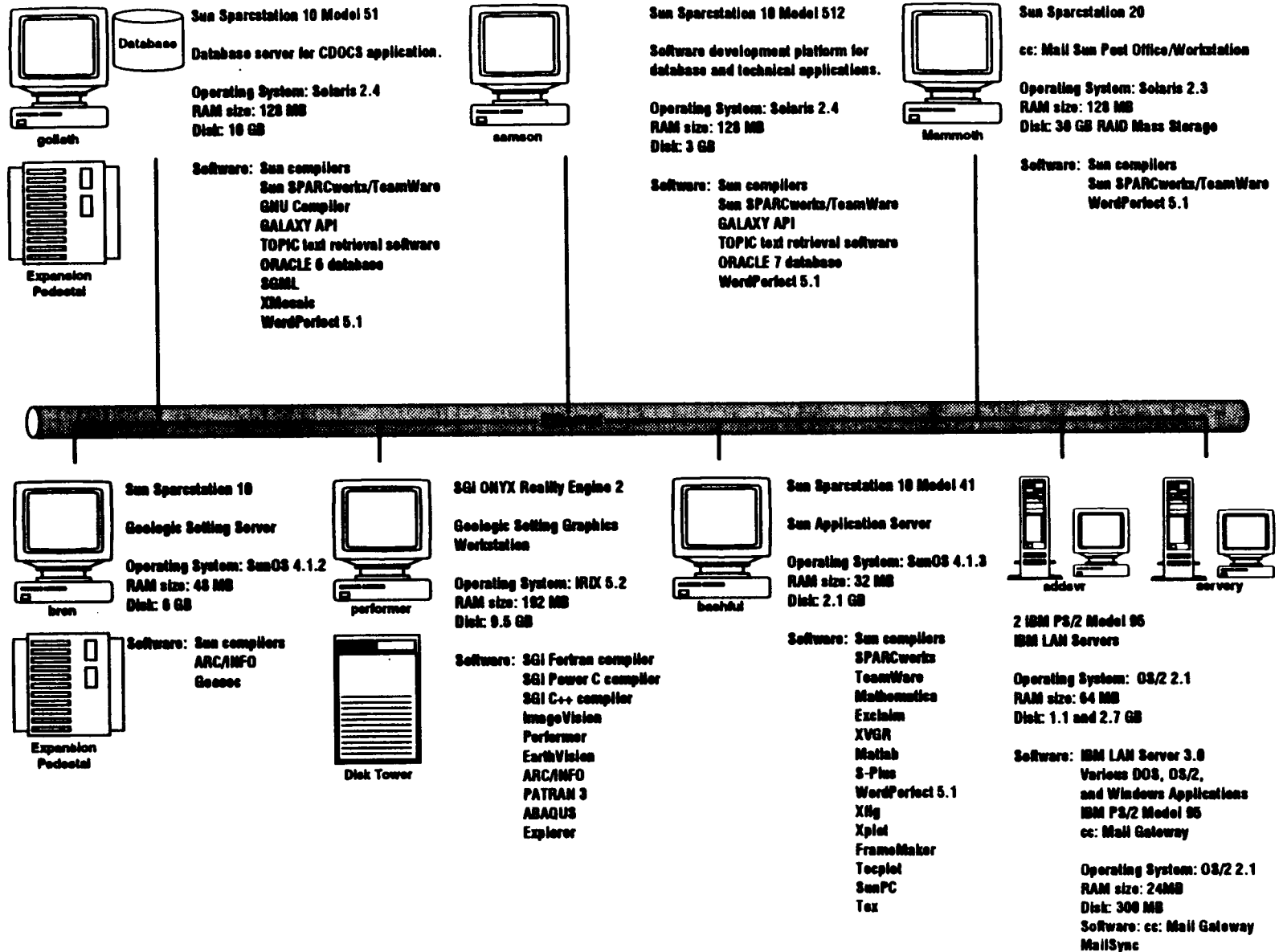


CNWRA Database and Application Servers



2-3

Figure 2-2. Center for Nuclear Waste Regulatory Analyses local area network technical, database, and office automation servers

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Table 2-1. List of major Center for Nuclear Waste Regulatory Analyses computers and peripherals

| Categories | Description | Quantity |
|---------------------|---|-----------------|
| Servers | | |
| | NFS Sun Sparc20 mass storage Redundant Array of Inexpensive Disks (RAID) System (30 GB) | 1 |
| | Sun Sparc10 Servers | 4 |
| | IBM PS/2 Model 95 LAN Server | 2 |
| | Silicon Graphics ONYX Reality Engine 2 Server | 1 |
| Workstations | | |
| SGI | Silicon Graphics Indy Workstation | 1 |
| Sun | Sun Sparc10 Model 41 Workstations (3 core staff, and 1 other) | 4 |
| | Sun IPX 4/50 Workstations (7 core staff, and 1 other) | 8 |
| | Sun Sparc20 Model 51 Workstations (2 core staff) | 6 |
| Apple | Apple Macintosh/Quadra Workstations (8 core staff, and 3 others) | 11 |
| | Apple Power Macintosh (2 core staff) | 2 |
| PCs | | |
| IBM | IBM PS/2 Model 95 with OS/2 (49 core staff, and 21 others) | 70 |
| Printers | | |
| | QMS Laser Printers | 3 |
| | HP LaserJet III Printers | 12 |
| | HP LaserJet IV Printers | 3 |
| | Tektronix Phaser III Color Printer | 1 |

3 REQUIREMENTS BY APPLICATION FOR CENTER FOR NUCLEAR WASTE REGULATORY ANALYSES COMPUTER AND INTERFACES FOR FISCAL YEAR 1996

The computer acquisitions planned for FY96 at the CNWRA are described in the following five sections. Specific lists of hardware and software required to support applications at the CNWRA are identified. In addition, a cost estimate is provided for those hardware and software items. All hardware and software items described in the following tables will be leased on overhead or purchased using SwRI capital equipment funds.

3.1 OFFICE AUTOMATION

The standard Word Processing (WP) software used by the NRC DWM and the CNWRA is WordPerfect 5.1 for DOS. Both the NRC DWM and the CNWRA plan to upgrade to WordPerfect 6.1 by July 1996. All CNWRA Major and IM deliverables are expected to be submitted electronically in WordPerfect along with the hard copy documents.

The e-Mail system software currently used at the CNWRA is cc:Mail, and it will be upgraded to cc:Mail Release 6 in FY96. The CNWRA cc:Mail system is interfaced to the NRC WordPerfect Office (WPO) e-Mail system by a pair of gateways using the Novell Mail Handling System (MHS) standard. One gateway is located at the CNWRA and the other is at the NRC. The CNWRA uses an Oracle-based system for scheduling meetings and conference rooms, travel, and vacations. The DWM uses the calendaring capability in the WPO system. The upgrade cost for WordPerfect 6.1 and cc:Mail Release 6 is shown in Table 3-1.

The NRC provides compatibility between the two mail systems with a MHS gateway. This gateway has occasional problems mapping long user names and post office names between WPO and cc:Mail (both e:mail systems support > 8 character user names and post office names, the limit of the MHS standard). The NRC is currently researching the WordPerfect cc:Mail gateway from WordPerfect.

Table 3-1. Center for Nuclear Waste Regulatory Analyses software for office automation in fiscal year 1996

| Quantity | Item Description | Estimated Cost |
|----------|--|----------------|
| 80 | Upgrade WordPerfect 5.1 to WordPerfect 6.1 | \$7,120 |
| 80 | Upgrade cc:Mail Release 1 to cc:Mail Release 6 | \$1,100 |
| SUBTOTAL | | \$8,220 |

3.2 CONSOLIDATED DOCUMENT MANAGEMENT SYSTEM

Recently, the Consolidated Document Management System (CDOCS) Server [Technical Reference Document Database System (TDOCS) prototype] was installed at the NRC DWM. The same system was implemented at the CNWRA during the past year to replace the Correspondence Control (CC), Technical Document Indexing (TDI), and Quality Assurance (QA) Records systems. The NRC and CNWRA servers are synchronized so that documents loaded at either organization will be transmitted to the other organization's database. While TDOCS is a full-text management system, it has been loaded primarily with the headers for CC, TDI, and QA. The TDOCS currently supports physical filing and checkout of technical documents by the staff. A document loading plan will be developed jointly with the NRC in FY96 and full-text of selected documents will be loaded.

The CDOCS also incorporates the Regulatory Program Database (RPD) and is used to: (i) capture results of Systematic Regulatory Analysis (SRA); (ii) support the efficient retrieval, review, and confirmation of information; and (iii) support and maintain a corporate memory of decisions and considerations pertaining to the licensing process. During FY95, the RPD was operational at the CNWRA. The RPD 2.0 provides a Standard Generalized Markup Language (SGML) coding structure, relational database record control, and full-text search and retrieval for all SRA records. A generalized report writer was implemented to support standard reports such as the License Application Review Plan (LARP). UNIX and Windows clients for RPD/Open Item Tracking System (OITS) are being implemented at this time for the DWM to access the RPD Server at the CNWRA. An enhanced version of CDOCS that synchronizes RPD documents and reports between the CNWRA and DWM servers will be completed in FY96.

The RPD implementation incorporates an OITS for three types of open items: (i) regulatory, (ii) institutional, and (iii) technical uncertainties. Support is provided for tracking open items by "responsible" party and "action" party. Status reports are available on-line, along with a history of actions taken to resolve the open items.

The planned software and hardware upgrades and additions for CDOCS during FY96 are shown in Table 3-2. To maintain compatibility, the Oracle and TOPIC upgrades will be necessary for the NRC. These upgrades will only be implemented if support for the existing versions are withdrawn, or if major functionality improvements are judged by NRC and CNWRA staff to justify the cost. The Galaxy upgrades are necessary for development of TDOCS only; there are no "runtime" requirements that necessitate NRC to own Galaxy. The color scanner is for the CNWRA to maintain compatibility with the existing NRC scanner. Adobe Acrobat will be investigated to serve as a document "browser" to eliminate the requirement for multiple word processors.

3.3 SOFTWARE FOR PROJECT MANAGEMENT

The project management function supports operations planning, periodic cost reporting, commitment control, and project scheduling at the CNWRA. During FY95, the CNWRA continued using Microsoft EXCEL to support periodic cost reporting and commitment control. The CNWRA will continue to use this product. Microsoft Project has been selected for planning and scheduling purposes since it will interface seamlessly with Excel. However, the CNWRA is exploring the adoption of Oracle products to enhance the capability for accomplishing planning, scheduling, and reporting in an integrated manner.