

Federal Student Aid (FSA) Enterprise Portal - Release 1

Operations Checklist



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1.0 Introduction

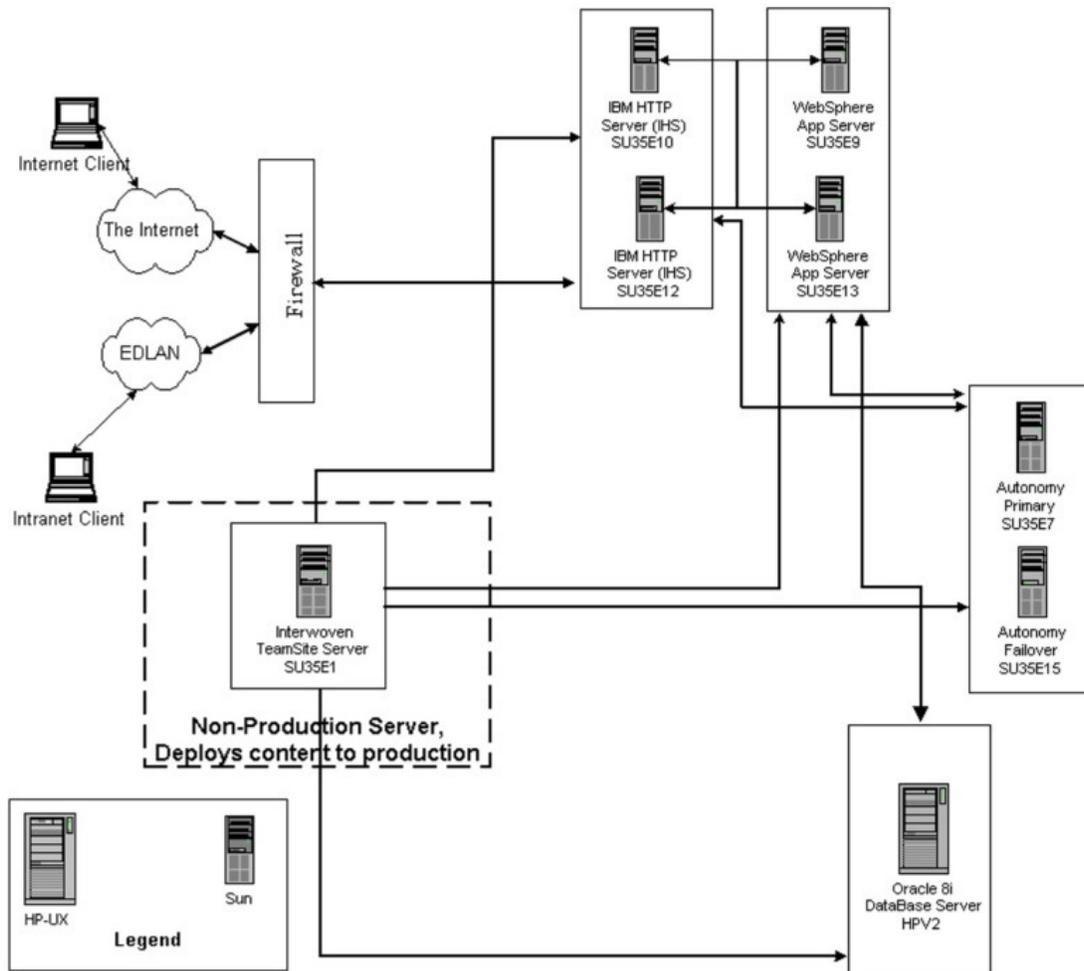
1.1 Purpose

The purpose of this document is to ensure that all operational procedures for supporting the Enterprise Portal Release 1.0 are documented and known. This document will also provide support for the day-to-day operations of the Enterprise Portal system as well as technical specifications about the design of the system, including the hardware and software supported. This is a living document, and should be updated continuously as changes to the production environment of the Enterprise Portal are introduced.

2.0 Technical Support

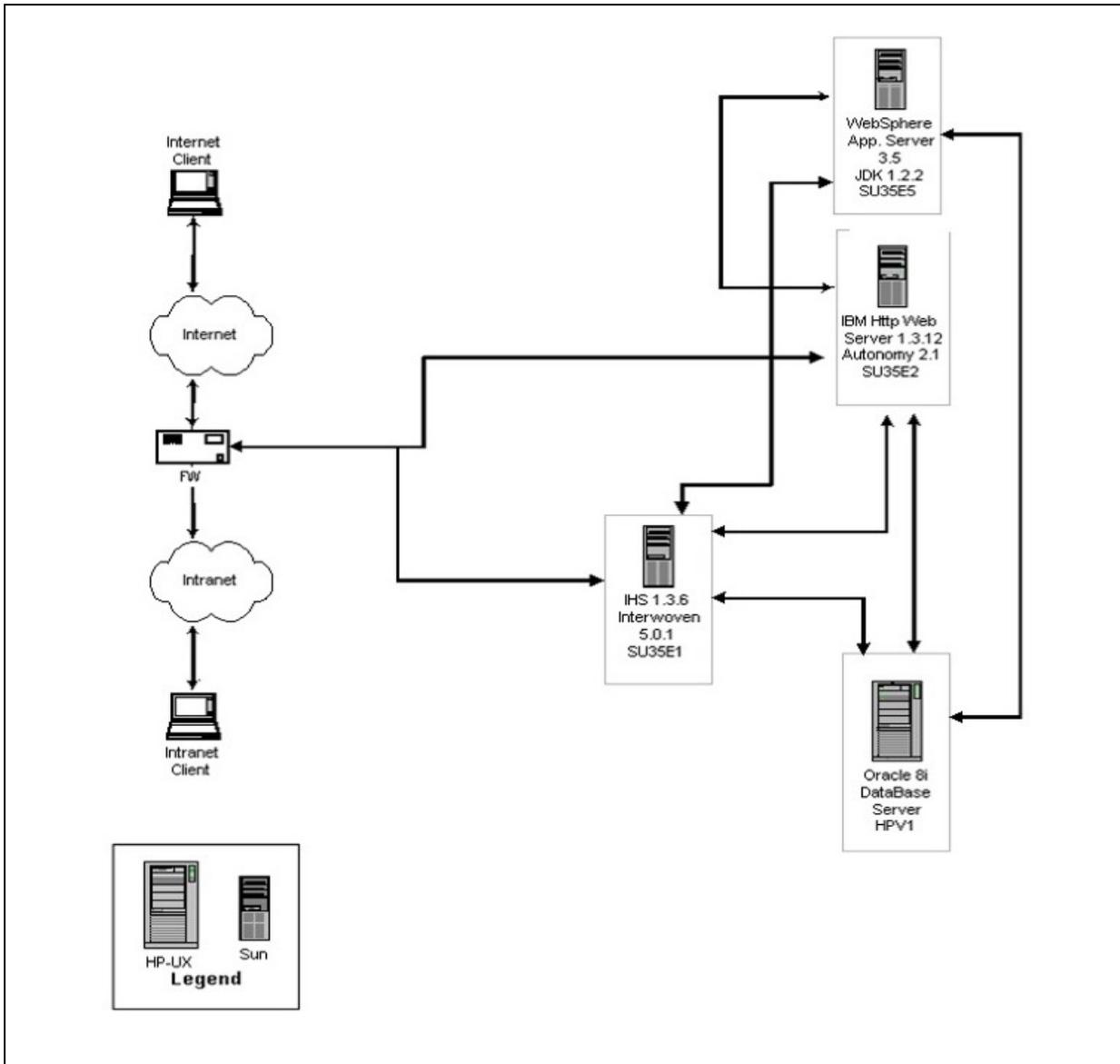
2.1 Production Environment System Configuration

The following section details the logical layout of the production environment for the Enterprise Portal system.



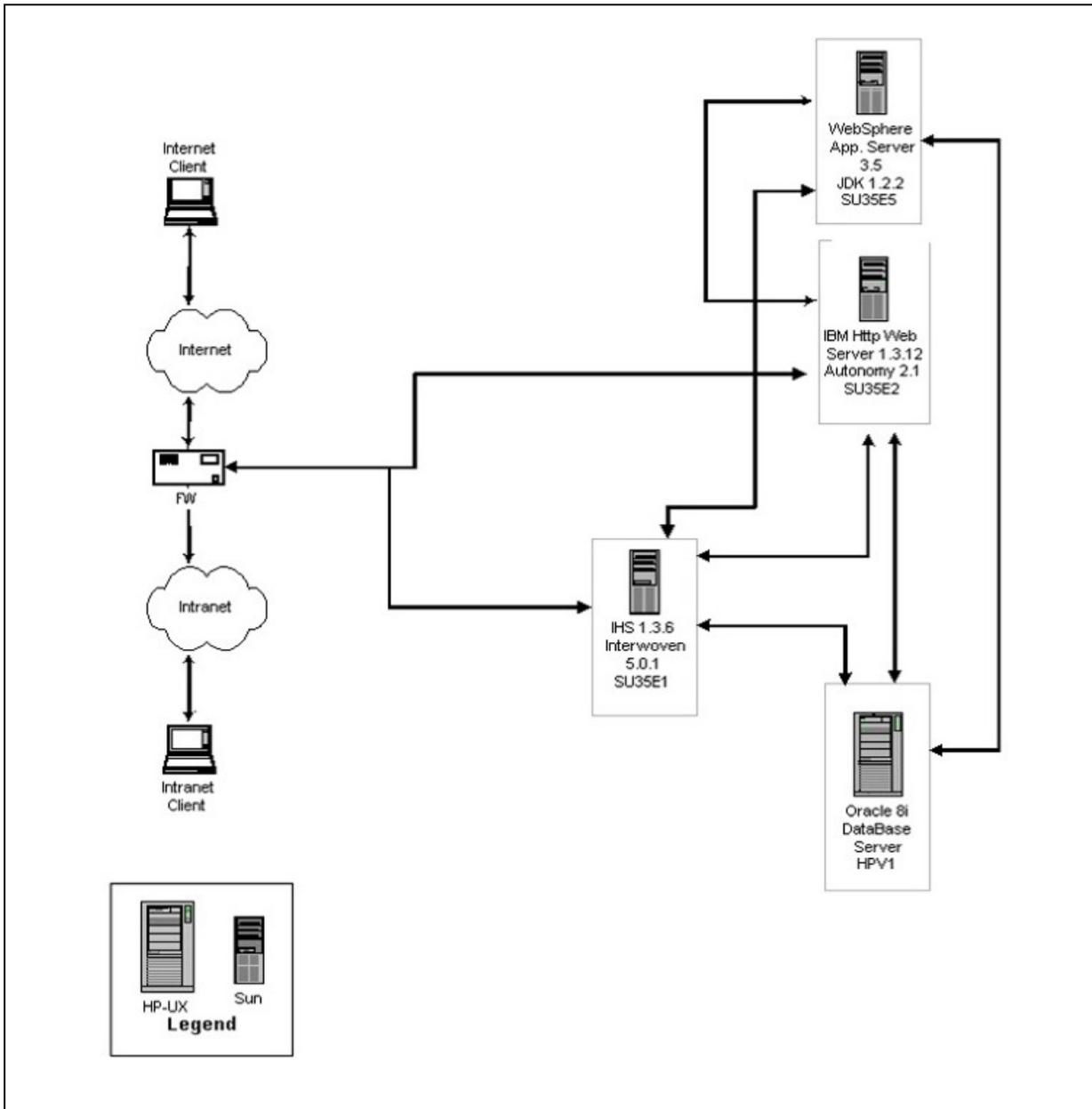
2.2 Development Environment System Configuration

The following section details the logical layout of the development environment for the Enterprise Portal system.



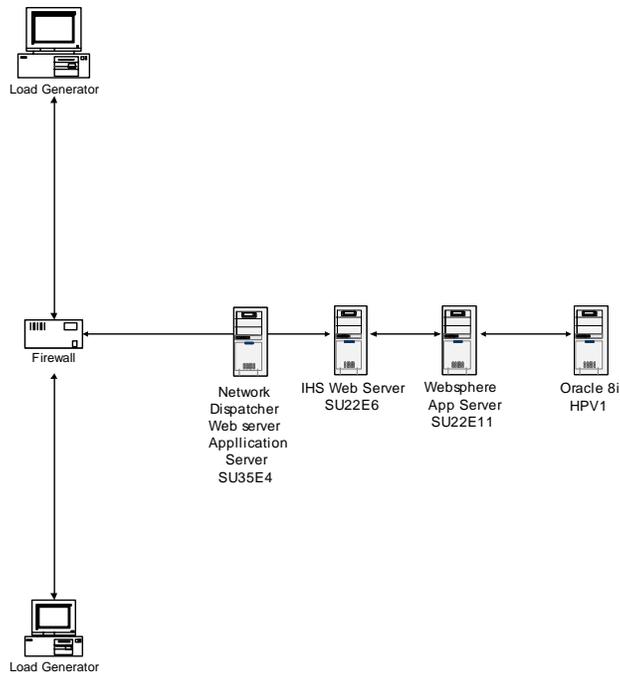
2.3 System Test Environment

The following section details the logical layout of the system test environment for the Enterprise Portal system.



2.4 Performance Test Environment

The following section details the logical layout of the performance test environment for the Enterprise Portal system.



2.5 Hardware Inventory

2.5.1 Production Environment Hardware Inventory:

Server	Intranet IP Address	Internet IP Address	Server Manufacturer & Model
Network Dispatcher	4.20.17.140	198.77.163.140	Sun E3500 - SU22E4
Network Dispatcher	4.20.17.145	198.77.163.145	Sun E3500 - SU22E3
Web Server	4.20.17.144	198.77.163.144	Sun E3500 - SU35E10
Web Server	4.20.17.146	198.77.163.146	Sun E3500 - SU35E12
Application Server	4.20.17.143	198.77.163.143	Sun E3500 - SU35E9
Application Server	4.20.17.147	198.77.163.147	Sun E3500 - SU35E13
Autonomy	4.20.17.141	198.77.163.141	Sun E3500 - SU35E7
Autonomy Failover	4.20.17.149	198.77.163.149	Sun E3500 - SU35E15
Oracle 8i	4.20.15.40	4.20.14.40	HPV2

2.5.2 Test and Development Environment Hardware Inventory:

Computing Environment	Server	Intranet IP address	Internet IP Address	Server Manufacturer & model
Development	Application Server	4.20.15.132	4.20.15.132	Sun E3500 - SU35E2
	Interwoven	4.20.15.131	4.20.14.131	Sun E3500 - SU35E1
	Interwoven	4.20.15.134	4.20.14.134	Sun E3500 - SU35E4
	Oracle 8i	4.20.15.59	4.20.14.59	HPV1
Test	Application Server	4.20.15.132	4.20.14.132	Sun E3500 - SU35E2
	Interwoven	4.20.15.131	4.20.14.131	Sun E3500 - SU35E1
	Interwoven	4.20.15.134	4.20.14.134	Sun E3500 -



				SU35E4
	Oracle 8i	4.20.15.59	4.20.14.59	HPV1

2.6 Software Inventory

Component	Version Information	Installation Tier
Operating System	Sun Solaris - v. 2.6	
Compilers	Visual Age for Java Enterprise Edition - v. 3.5.3	Dev environment only
Internet Server	IBM HTTP Server - v. 1.3.12.2	
Database	Oracle 8i - v. 8.1.6	
Application Server	WebSphere Application Server Advanced Edition - v. 3.5.3	
Search Engine	Autonomy Knowledge Server - v. 2.1	
Other Application tools		

2.7 Software Maintenance Contracts

CSC only requests copies of maintenance contracts when it is going to assume some existing maintenance. CSC is already and will continue to provide maintenance for the Enterprise Portal site, therefore all maintenance contracts are already in place.

2.8 Software Performance

Please refer to Enterprise Portal performance test plan and test results Enterprise Portal software performance.

3.0 Operations

3.1 Manual Monitoring

For Enterprise Portal Release 1.0, manual monitoring will be done in the morning on a daily basis. The CSC System Administrator will be responsible for this procedure, and the primary monitoring will be to check and ensure system health.

3.2 Maintenance Schedules

A maintenance window has been scheduled for 7am-9am on the first Sunday of every month. All Web, Application, Database, and Mainframe servers will fall into this maintenance window for any routine or planned maintenance.

3.3 Reboots

Reboots of the Hewlett Packard Systems will fall into the maintenance window, as described in section 3.2 of this document, and will be performed on the first Sunday of every month. There will be no restarts necessary for the IHS or WAS.

3.4 Start/Stop Processes

There are no processes that will need to be started nor stopped manually on a regular basis for the health of Enterprise Portal Release 1.0.

3.5 Job Scheduling

CRON jobs will be scheduled, and these will be expected to perform backups and maintenance tasks for Enterprise Portal Release 1.0.

3.6 Special Business Tasks

There will be no operator involvement necessary for any special business tasks, such as Special Reports, Microfiche tapes, etc.

3.7 Backups

A full backup will be performed on the system every Sunday, with incremental backups being scheduled every day during the week. The recovery requirement for Enterprise Portal Release 1.0 is that no loss of data will occur.

3.7.1 Backup Tapes and Offsite Storage

CSC currently performs backup functions, and will continue to provide this service for Enterprise Portal 1.0. The following relevant information applies to the backup processes followed for Enterprise Portal 1.0:

- CSC determines the number of backup tapes necessary, and will provide for sufficient tapes as well as rack space to continue to perform this function
- The type of backup tapes used is DLT7000
- Backup tapes are sent offsite daily
- Backup tapes will be routinely rotated offsite for four-week periods of time
- Tapes will be returned on a monthly recycle basis
- Currently there is no long-term storage or archival of tapes specified for the Enterprise Portal application.

3.8 Failover

MS Service Guard is used for failover for the HPV1 and HPV2 servers. The following information applies to separate areas of the production environment:

- A failover server exists for the Network Dispatcher, and the HP Oracle server.
- There are multiple application and web servers, and if any one server were to fail, the remaining servers will handle the processing normally done on the failed server

3.9 Performance and Reporting

Webtrends, and various utilization reports are in place, and will be used for the Enterprise Portal. Out of Netscape, extended format logs are produced by NCS. NCS is responsible for setting up a job to create these logs on a daily basis. These logs should be kept for the life of the cycle. CSC will then retrieve these logs and make them available for Webtrends. No paper reports are produced, rather a secure web site is available where reports are run. These reports can be run by day, week, or month.

CPU and Network reports will also need to be produced for all servers in Enterprise Portal Release 1.0.

3.10 System Dependencies

For the application to run properly, at least one server for each architecture component must be running. This includes application server, web server, Network dispatch server, and the Oracle Database. The production system as a whole depends on all these being available and running properly. Please refer to the logical diagram in section 2.1 to see how these servers interact with one another.

3.11 System Processes Sequence

There is no sequence of processes in which Web Server will be brought up or down. Everything is brought down during the monthly reboots. Database servers are brought down according to the scripts, which will be provided to CSC by the DBA. The sequence for bringing these servers down will be included in the scripts.

4.0 Communications

4.1 Remote Access

Developer remote access will be necessary for the Enterprise Portal Release 1.0 application. Developers will require full access rights equivalent to what the Integrated Technical Architecture team requires.

4.2 Number of Users

The following tables specify the number of expected users for the Enterprise Portal Release 1.0. Included are tables for the average daily number of users and hits, as well as the estimated peak number of users and hits, and several significant calculations based on the peak number of users estimate.

4.2.1 Enterprise Portal Daily Assumptions

The following table estimates the average daily number of users and hits on the Enterprise Portal.

Hits/day	40,000,000
Hits Homepage/day	4,000,000
Page Views/day	8,000,000
Users/day	47,300
User session length (minutes)	6

* page views are 20% of total hits

4.2.2 Enterprise Portal Peak Hour Assumptions

The following table estimates the peak number of users and hits to be experienced by the Enterprise Portal.

	9am-2am (Ave)	Peak Hour
Hits/hour	2,117,500	4,235,000
Hits Homepage/hour	211,750	423,500
Page Views/hour	423,500	847,000
Users/hour	2,500	5,000
User session length (minutes)	6	6

* (90% of hits during 17 hour period 9am-2am, distributed equally)

* most active hour is 0.10588 of total hits (2x Column 1)

4.2.3 Enterprise Portal Peak Hour Calculations

The following table lists several key calculations based on the assumptions for the peak hours of the Enterprise Portal.

	9am-2am (Ave)	Peak Hour
Hits/second	588	1,176
Hits homepage/second	59	118
Page views/second	118	235
Number of concurrent users	250	501
Hits/user	846	846
Page views/user	169	169
User think time (seconds)	2	2

* This spreadsheet is assuming 250 concurrent users with a user session length of 6 min.

- Our experience has shown 250 users usually show a hits/sec range of 400 - 600.



4.3 System Interaction

All users will interact with Enterprise Portal through http(s).

5.0 Security

For information on Security performed for Enterprise Portal, including information about Intrusion Detection, as well as internal and external security measures please refer to the Enterprise Portal Security Plan Documentation.