Washington State Digital Archive

QA Progress Report

Period 3: August-October 15, 2004

Presented to:

Office of the Secretary of State

Archives and Records Management Division

Submitted by:

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Table of Contents

1.	Sun	nmary	2
2.	Fina	ancial Status	4
	2.1	Risks & Remarks	
3.		Events	
	3.1	Program / Project management	
	3.2	Communication plan	
	3.3	Facility preparation	<i>6</i>
	3.4	Front end Servers (including network and infrastructure)	7
	3.5	B/U & X-platform software	8
	3.6	Fiber Optics	8
	3.7	Phones and VoIP	9
	3.8	SAN Hardware & Software	10
	3.9	Tape Library	10
	3.10	Microsoft/EDS (BizTalk 2004& Application)	12
	3.11	Technical Staff	13
	3.12	Install and Shakedown	16
	3.13	Grand Opening	16
	3.14	Post Grand Opening, Phase I – Part 2.	17



1. Summary

This is the third QA progress report for Phase I of the Digital Archives project as defined within the QA Plan dated May, 2004. The QA activities tracked for the report are related to the technology related aspects of the Digital Archives project only. Please refer to the QA Plan for definitions and other details on the QA process. This report will discuss a time period of approximately 60 days in length and covers events from August 1, 2004 through October 15, 2004. This report was extended into October to allow for a report on the "live beta" of the Digital Archives that was release on October 4th during the Grand Opening of the Digital Archives facility in Cheney Washington.

August - October 15 Summary

The summary is a high level account of the activities, remarks and risks identified during this period. Please refer to specific sections within this report for further details and elaborations.

- The tape library vendor finalists were interviewed on August 3rd. Details of this meeting are contained within this report in the appropriate section. The overall result was that ADIC was selected to provide the tape library solution.
- The contract with Qwest was completed and all phones are operational. Voice over IP is complete.
- The "live beta" application was completed on time and delivered by October 1st, 2004. The Phase I, step 2 production version is targeted for December, 2004.
- The current budget estimates for this project are on target and slightly below the amount estimated in the Digital Archives Investment Plan. No concerns are noted at this time.
- Three of the five vacant positions (Network administrator, Database manager, Web master) have been filled. The Electronic Records Manger applications are being review and the Archives Assistant position is being re-classified prior to posting.
- The Agency has invested a great deal of effort in preparing the new Digital Archive staff for the
 on-going management of the production environment of Phase I schedule for December, 2004. A
 training plan tailored to the specific staff member has been created so that their existing expertise
 can be leveraged and only "required" training be taken.
- The Digital Archives facility in Cheney was dedicated at a Grand Opening ceremony on October 4th. GlassHouse did attend the Grand Opening event. The event was an undeniable success and demonstrated the quality and abilities of the OSOS staff in delivering a product on time and on budget. The impression of the QA Provider was that all other event attendees felt equally in the success, quality and excitement of the digital archives product and future services to come.



- Strategic, tactical, and operational policies and procedures are being created and will be
 documented and implemented prior to the Digital Archives first full production date in December.
 These will continue to be tracked in the subsequent and final QA report and will not be deemed a
 risk unless they are not completed and in place by the production date at the end of 2004.
- The minor risk from the previous report was attenuated as follows:
 - The tape library was installed and the tape rotations procedures are being created and are anticipated to be completed by the time the application is regularly adding and changing data on January, 2005
- The next reporting period will be from October 15, 2004 through December, 2004. This is anticipated to be the final QA report for the approved QA Test Plan.



2. Financial Status

The project budget is an aggregate of components that were previously defined in the Digital Archives Investment Plan. The following chart shows the current expenditures versus budget for the Digital Archives project.

BUDGET CATEGORY	Investment Plan Estimate	Current Estimate (as of 9/30)	Current Esti Expended/Obli Date		Current Es Un-obligated	
			\$	%	\$	%
Personal Services Contracts	\$332,750	\$1,069,912 (Note #1)	\$1,069,912	100%	\$0	0%
Hardware Maintenance	\$13,044	\$29,873	\$29,873	100%	\$0	0%
Software Maintenance/upgrade	\$247,889	(Note #2)				
Goods and Services	\$75,000	\$90,000	\$88,539	98%	\$1,462	2%
Hardware Purchase	\$1,238,472	\$1,076,187	\$1,041,187	97%	\$35,000	3%
Software Purchase	\$670,413	\$259,545	\$254,545	98%	\$5,000	2%
TOTAL	\$2,577,568	\$2,525,517	\$2,484,056	98%	\$41,462	2%

2.1 Risks & Remarks

There are no major risks to the financials of the Digital Archives project for this report. There are notations that help to explain aspects of the recorded numbers. They are listed below.

The only outstanding purchase for the 2003-2005 biennium is media conversion hardware and software. This will allow the Digital Archives to convert old file formats to a platform-neutral format to assure future retrieval.

Note #1: Personal Services Contracts

This figure includes a \$90,000 QA contract entered into with GH on 4/2/04 and \$979,912 contract with Microsoft/EDS, the selected vendor for custom development of digital asset management system. This reflects a shift from the original intent to purchase an existing commercial content management system to a personal services contract for custom development of a digital asset management system.

Note #2: Software Purchase and Software Maintenance/upgrade

There is no current estimate for software maintenance. This primarily is the result of the shift described above. In addition, first year maintenance for the off-the-shelf software that is being purchased is included in the purchase price. Maintenance and upgrade for the customized digital asset management system is included in the Microsoft contract.



3. QA Events

QA Events are listed in the sections below and form the basis for all QA reporting references. All 14 QA Events listed in the QA Plan are contained in this period report. All dates referenced in the table are for the calendar year of 2004.

3.1 Program / Project management

Building on the Feasibility Study and Investment Plan already developed (which identified the overall goals and objectives for the project), this section involves the identification of key tasks, milestones, deliverables and resources needed to implement the technical aspects of the project, and will provide a mechanism for tracking progress (also includes identification of staff roles and responsibilities).

Milestone / supporting activity	Measurement Criteria	Result / Plan
Working sub groups and sub group leaders are identified.	April 9	12 sub group teams were identified on 4/9 with selected team leaders.
Sub groups develop task lists and due dates for integration into overall project plan and timeline.	April 16	Task lists were developed 4/16 with integration into a plan taking place on 4/26.
Sub groups are assigned partial or full responsibility for completing the work associated with each major QA event.	April 16	Completed and accomplished on target date.
An overall project timeline is established that will be used to track progress.	May 7	Project plan with documented dependencies was completed in June. Continuous updates will occur to manage project.

3.1.1 Risks & Remarks

Remark

The current project plan is an MS Project document and contains each of the major project event areas as defined in the QA Plan. The task inter-dependencies have been documented and combined into a comprehensive project plan for the OSOS team identifying critical path associations and due dates to manage and mitigate project slippage.

3.2 Communication plan

Identify and document the process that will be used to ensure that lines of communication are established that will facilitate the coordination within the agency and between the agency and all its partners as the project is implemented.

Milestone / supporting activity	Measurement Criteria	Result / Plan
Documentation of communication process	April 16	This is identified for the QA process with the agency. Further communication processes are identified in the SOW with the application developer (Microsoft) and the MOUs to the participating agencies.
Weekly reviews of project status	Record of regular occurrence	Confirmation of weekly team meetings in June and July. QA provider receiving meeting notes at intervals.
Regular communication to participating agencies	 Evidence of participation in the process by other agencies (e.g. completion of MOU) Positive or negative perception in the process by other agencies. 	The MOUs for the three "beta" counties will be executed over the summer with a target date of August. The Agencies have already participated in a "proof of concept" test by sending a subset of their monthly data.
		The process for all remaining counties will be monitored throughout this project.

3.2.1 Risks & Remarks

There are no risks or additional remarks for this section.

3.3 Facility preparation

Construction of the data center facility, located on the second floor of the new Digital Archives/Eastern Washington Regional Archives building in Cheney, WA, is complete. This task includes ensuring an appropriate and workable configuration of the control, network and tape library rooms. Also includes the planning for and installation of all data cabling, power connections and redundancy.

Milestone / supporting activity	Measurement Criteria	Result / Plan
Facility build-out completed and agency approval	June 1 Evidence of acceptance by agency	A Certificate of Occupancy indicating completion and agency acceptance was signed on May 21 st .
Facility ready to receive equipment	May 25	Complete
Cable connection plan completed	May 7	Completed on May 24.



Milestone / supporting activity	Measurement Criteria	Result / Plan
Control, network and tape library rooms configured	May 7Evidence of acceptance by agency	Complete. Visual inspection on May 24 th .
Generator and UPS in place and load tested	 May 25 Evidence of acceptance by agency 	Complete Load test of generator occurred the week of May 17. A commissioning report from Dumais Romans is pending receipt by agency. — Deficiencies have been identified and are work in progress. Not closed out yet. Anticipated in Sept.
Load test network	 Record outcome or result Evidence of acceptance by agency 	Installation and testing for copper and fiber optics – Complete and accepted Complete cabling test results have been received from Spokane Telephone and Data
Data center completed, including cabling	May 25Evidence of acceptance by agency	Complete. The servers have been installed. Fiber and copper runs to the servers have been installed and terminated.

3.3.1 Risks & Remarks

There are no risks or additional remarks for this section.

3.4 Front end Servers (including network and infrastructure)

Configure and install file servers and network operating systems

Milestone / supporting activity	Measurement Criteria	Result / Plan
Purchase of routers, switches, file	May 19	Complete - Field order
servers and racks		number: F759051, F759033
Delivery of same	May 25	Complete. Received in June
Network access rights determined	May 4	Complete (July)
Installation	June 24	Completed July 9th
Connectivity testing	• June 25	Complete and fully operational
	Record outcome or result	

3.4.1 Risks & Remarks

There are no risks or additional remarks for this section.



3.5 B/U & X-platform software

Backs up all critical data and applications for disaster recovery and long term archival storage

Milestone / supporting activity	Measurement Criteria	Result / Plan
Purchase software	April 14	Completed – Field order number: F759052
Delivery of software	April 20	Complete
Installation	June 24	Complete Sept 23, 2004
Testing	 Meets or exceeds back up and recovery windows (i.e. eight hours for back up and two hours for recover) Evidence of recovery 	Complete VERITAS tested during installation

3.5.1 Risks & Remarks

There are no risks or additional remarks for this section.

3.6 Fiber Optics

Provides fiber optic Internet connectivity for the facility and provides for VoIP.

Milestone / supporting activity	Measurement Criteria	Result / Plan
Vendor selection for facility connection	April 12 Normal vendor selection process followed	DIS normally provides Internet connectivity services to state government agencies. Concerned about delays from a recent DIS initiative to solicit Fiber Optic bids for the entire State, OSOS solicited informal proposals from Century Tel and Qwest. Both proposals came in lower than ones collected by DIS. A meeting was held in April 2004 between OSOS and DIS and approval received to pursue a contract with Century Tel due to their price and support of voice over IP.
Negotiate and finalize contract	Contract in place	Complete The Century Tel contract for Internet connectivity ISP-Fiber Optic executed on June 21, 2004. Contract number is PS-2739
Test connections	100% connection validated by vendor	Completed on July 27 th .

3.6.1 Risks & Remarks

There are no risks or additional remarks for this section.

3.7 Phones and VolP

Ensures that the facility has phone service to support day-to-day operations as well as long distance service at a reduced rate and provide for security system monitoring.

Milestone / supporting activity	Measurement Criteria	Result / Plan
DSL install for temporary phones	April 20	Complete
Vendor selection for VoIP/fiber optic connection	May 12 Normal vendor selection process followed	Complete The VoIP service was bid in accordance with the informal bid process established by DIS. This purchased qualified for and followed rules that defined purchases of less than \$100,000 based on the state's biennial budget period (two years).
Negotiate & finalize contract	Contract in place	Qwest has been chosen as the successful vendor. Complete PS-2763 on 8/16
Equipment delivered/phones installed and tested	June 25Record outcome or result	Complete
Service available	July 2 Record outcome or result	Complete

3.7.1 Risks & Remarks

There are no risks or additional remarks for this section.

3.8 SAN Hardware & Software

Installation of the Storage Area Network hardware and software to store and manage the data in the Digital Archives.

Milestone / supporting activity	Measurement Criteria	Result / Plan
Vendor and product selection	 April 23 Normal vendor selection process followed 	Completed Vendors selected off of DIS Master Contract. (See previous report for further explanation if required) Received quotes from the top two off of master contract and determined – Dell/EMC CX700 selected.
Purchase	April 27	Completed – Field order number: F759108, F759109
Delivery	June 7	Complete on July 8th
Installation	June 25	Complete on July 8th
Integration and testing	 Disk proof of concept test developed including accepted benchmark criteria (i.e. performance). Pass proof of concept testing. (assumes simulation) 	A combination of vendor testing and an Agency created Test Plan will be performed. Vendor testing completed on July 8 and results received during data center review. The POC testing was also completed by the vendor.

3.8.1 Risks & Remarks

There are no risks or additional remarks for this section.

3.9 Tape Library

Provides backup to critical information and applications for disaster recovery and long term retrieval of electronic archival documents that are infrequently used and not stored on the SAN.

Milestone / supporting activity	Measurement Criteria	Result / Plan
Issue competitive solicitation	May 7	Complete. OSOS revised RFQQ for re-release. Release date May 26
Select vendor and product	May 17Normal vendor selection process followed	Two finalists were identified (Overland and ADIC). Vendor interviews were held to determine tape solution.
		Decision: ADIC

Milestone / supporting activity	Measurement Criteria	Result / Plan
Negotiate and finalize contract	Contract in place	Complete. A field order was executed for purchase with maintenance at the "gold level" of support.
Purchase	May 20	Complete - Procurement took place mid-August
Installation	June 24	Complete – 9/23
Integration and testing	 Tape proof of concept test developed including accepted benchmark criteria (i.e. performance). Pass proof of concept testing. (assumes simulation) 	Completed. Conducted by the vendor during installation.

3.9.1 Risks & Remarks

Remark

GlassHouse participated in the onsite interviews with the two competing tape vendors. Both vendors seemed to prefer Fuji tapes. GlassHouse would recommend that OSOS attempt to procure the tapes from another approved reseller or vendor, as ADIC's price quote on tapes seemed a little high.

Overland's statements about SDLT 600 being the "most stable tape roll-out" that they have ever seen is a slight concern since ADIC noted problems dramatic enough with SDLT 600 to stop shipment on them. GlassHouse feels confident in OSOS's decision to go forward with the LTO-2 tape format.

Both vendors did a good job and it is GlassHouse's opinion that no "wrong" decision could be made between the two companies/products. However, while marginal; ADIC does appear to be a better choice for OSOS than Overland for the following reasons:

- Company size, including field support. ADIC noted that just their support organization is bigger than Overland – this is a significant statement in itself.
- ADIC's I-platform architecture seems to better allow sharing of tape drives, as well as add another level of redundancy via multiple connections into the dual storage fabrics. It also will allow an additional level of reporting, which can aid troubleshooting and debugging efforts in the future.
- Overland noted that they would need to set up a NEW parts depot in the Cheney area, and
 would have "a couple" field support people local. ADIC already has a parts depot close to
 the Digital Archives location, and noted that they had "seven or eight" field support people in
 the local area. After the initial purchase, local support and parts availability is one of most
 critical aspects of keeping the environment running smoothly.
- ADIC, as requested, brought one of their engineers to the presentation that would be responsible for the Digital Archives account. Overland did not.
- ADIC proactively submitted a services bid that would allow OSOS to have ADIC accountable
 for the entire tape environment working at installation, including Veritas NetBackup. This is
 very valuable to OSOS. Overland only provided that type of service quote after it was
 requested at the presentation. This demonstrates ADIC's understanding of the complexities
 of architecting a rock-solid backup environment, and what is required at the initial installation
 beyond just the hardware and connectivity.



- ADIC's capacity on demand model allows an ease of forecasting associated costs with additional capacity. Overland had a stair-step model, in which certain capacity on demand levels, (when it required a new library and robotics), were more expensive due to the architecture, and more complex to forecast.
- If/when HSM is required, it is GlassHouse's opinion that ADIC's library architecture is more
 conducive to quickly getting a requested tape from any slot to any tape drive within the
 library.
- ADIC is a local vendor. Going with a local vendor has numerous benefits especially for a high profile project such as the Digital Archives.
- There were initial concerns with the Dell/ADIC relationship, but those were addressed during the presentation and follow-up e-mails from ADIC. Purchasing the ADIC solution through Dell should not be an issue – ADIC will be the single point of contact 99% of the time.

3.10 Microsoft/EDS (BizTalk 2004& Application)

Development of archival software application, per agency specifications, that will accept specified digital assets into the Digital Archives, and provide for the search and retrieval of these assets via the web.

Phase I assets include one record series from all 39 counties; OSOS voter registration database, online historical records, web site spidering of OSOS web site and emails of ten executive level staff members; legislative policy documents.

Milestone / supporting activity	Measurement Criteria	Result / Plan
Vendor selected through competitive solicitation process	April 1 Normal vendor selection process followed	Complete - Microsoft selected. The State's GA, Office of State Procurement established a pre-qualified vendor pool for IT for use by Washington State government agencies. The agency issued a Work Request to solicit bids from pre-qualified vendors. Two proposals were received and Microsoft was selected.
Negotiate and finalize contract	Contract in place	Complete – approved by OFM on July 6th
Collection of test records and metadata from 3 counties and OSOS	May 30Evidence of acceptance by agency	Completed

Milestone / supporting activity	Measurement Criteria	Result / Plan
Data input policy and procedure completed	 May 3 Document meets requirements Evidence of acceptance by agency 	MOU: OSOS is making some minor revisions to the boiler plate language per request by counties.
		Final execution (signature) of MOU is not delaying application development because the technical information from the exhibits has been given to Microsoft.
Shopping basket functionality and integration with revenue system completed	June 30 Functionality meets requirements - Evidence of acceptance by agency	Documentation complete for MS on July 9 th Complete - Incorporated in Mid-September
Beta version from MICROSOFT installed and tested	July 6th Functionality meets requirements - Evidence of acceptance by agency	Following final contract completion of July 6 th , Microsoft issued a project plan that currently shows no "Beta version" release for Phase I, step 1. Several demos took place, final demo on 9/14
Phase 1, Step one application from MICROSOFT	August 16th	Complete Alpha version delivered 9/22, Beta version 9/30. Final phase 1 completion by Dec.

3.10.1 Risks & Remarks

There are no risks or additional remarks for this section.

3.11 Technical Staff

This section covers the hiring and training of the Digital Archives technical staff

Milestone / supporting activity	Measurement Criteria	Result / Plan
Network administrator position filled	April 20	Complete
	 Meets requirements for staff skill level or is temporary contractor 	Job description received 05/10.



Milestone / supporting activity	Measurement Criteria	Result / Plan
Database manager position filled	July 1 Meets requirements for staff skill level or is temporary contractor	Complete Job description received 05/10. Started July 26th in Olympia for training, started Aug 9th in Cheney.
Web master position filled	 July 1 Meets requirements for staff skill level or is temporary contractor 	Job description received 05/10. Accepted. Starts Aug 9th in Olympia for Training, starts Sept 1st in Cheney.
Archives Assistant position filled	July 1 Meets requirements for staff skill level or is temporary contractor	Awaiting completion. Recruiting on June 4 Job description received 5/28 The agency has determined that this position will be reclassified to an IT Systems Technician 2 (a state job classification). The job description is currently being finalized, and then recruitment will begin.
Electronic Records Manager position filled	July 1 Meets requirements for staff skill level or is temporary contractor	Awaiting completion. Job description received 05/10. The applicant pool has been narrowed and second interviews are pending.
Staff begin work in Cheney	May 25	Complete. Network Admin and Digital Archivist relocated to Cheney
Core Training plans developed	June 1	Complete The training is targeted to the skill set of the employee. (See "Remark" below)
Core Training completed	 October 1 Evidence of acceptance by agency to the training plan. 	Awaiting Completion Anticipated to complete in December

3.11.1 Risks & Remarks

Remark

The Training Plan is an important element in the success of this project. Quality trained staff help to minimize any risks or issues after the Phase I completion in December, 2004. The following chart illustrates the current training plan for the three filled position on the Digital Archive staff. As mentioned, the training is tailored to each of the hired team member based on their level of experience and expertise at the time of hiring.

Course	Date
	(For 2004)

Network Administrator

Six weeks of training with OSOS IT staff in	Jul 2
Tumwater to learn current network topologic,	001 2
administration standards and data dump on Digital	
Archives project to date.	
Course 1510: Developing e-Business Solutions	Oct 18 - Oct 21
using Microsoft BizTalk Server 2004	
Cisco PIX training:	Computer Based Training In House
DELL CX700 SAN management Training:	Jun 2 – Jun 3
2 Days, Intro Training	
Veritas NetBackup 5.0:	Dec 1
Tape Library (TBD):	Nov 1
Cisco SAN switch management:	Oct 13 – Oct 14
Course 2297: Planning, Implementing, Managing	Mar 28 – Apr 1
and Maintaining a Windows Server 2003	·
Environment for an MCSE on Windows 2000	
Course 1120: Ethical Hacking and Assessment	Not currently scheduled

SQL Admin/Developer Training Class

Three weeks with SQL developers in Tumwater to learn OSOS programming standards and data structures of current applications	July 26 - Aug 06
Course 1510: Developing e-Business Solutions using Microsoft BizTalk Server 2004	Oct 18 - Oct 21
Course 2072: Administering a Microsoft SQL Server 2000 Database	Jan 3 – Jan 7
Course 2273: Managing and Maintaining a Microsoft Windows Server 2003 Environment	Jan 24 – Jan 28

Application Programmer

Three weeks of training with OSOS web staff in Olympia to learn current programming standards	Aug 9 – Aug 20
and style guidelines and appropriate web	
templates	
Course 1510: Developing e-Business Solutions	Oct 18 – Oct 21
using Microsoft BizTalk Server 2004	
Course 2300: Developing Secure Web	Feb 22 – Feb 24
Applications	
Course 2350: Developing and Deploying Secure	Not currently Scheduled
Microsoft .NET Framework Applications	-
Course 4796: Intense .NET: XML/Web Services	Mar 21 – Mar 25



3.12 Install and Shakedown

This section covers the installation and operational readiness for all technical components and working with test counties to ensure system functionality and reliability

Milestone / supporting activity	Measurement Criteria	Result / Plan
Demo version from EDS installed and tested	 August 16 Record outcome or result Demo test plan/scenario developed including accepted benchmark criteria. Pass (assumes simulation) 	Based on the new application development plan provided by Microsoft, there will be no "alpha" version of the Phase I, Step 1 application. Test cases were created 9/17 for use with both the Alpha and Beta versions
		Complete - Run against Alpha on 9/22 and Beta
Ingest data from 3 counties and OSOS	September 15100% of the electronic records in the series	Complete on 9/24
Archival software system fully operational	October 1Evidence of acceptance by agency	Completed

3.12.1 Risks & Remarks

There are no risks or additional remarks for this section.

3.13 Grand Opening

A formal and live demonstration of the accession of one local government records series (e.g. marriage records) into the Digital Archives from three volunteer counties.

Milestone / supporting activity	Measurement Criteria	Result / Plan
Dry run successful for Grand opening	October 1	Complete
Grand opening completed	October 4	Complete on Oct 4!

3.13.1 Risks & Remarks

Remark

GlassHouse attended the Grand Opening of the Digital Archives facility on October 4th. The event was a notable success with no perceived technical difficulties. The "live beta" application worked well and was demonstrated effectively.

3.14 Post Grand Opening, Phase I – Part 2.

Continuation of Phase I plan to include incorporating OSOS archival records and county marriage records into archival system and creation of documentation for agencies to develop 'best practices' in archiving electronic records in the Digital Archives.

Milestone / supporting activity	Measurement Criteria	Result / Plan
Acquire Memos of Understanding with remaining 36 Counties.	70% of participating counties	Pending
Creation of documented processes and procedures for sustained operation of Digital Archives	 September 30 Evidence of documented processes and SOP's. 	Documents identified during the July 13 th , 2004 data center review. See remarks below.
Creation of best practices documents.	December 30Evidence of documented best practices.	Documents identified during the July 13 th , 2004 data center review. See remarks below.
Accession of Legislative Policy documents into the Digital Archives	 Beginning November 30 Test plan followed with evidence of acceptance. 	Pending
Accession of up to 10 OSOS executive level staff e-mails	September 30Test plan followed with evidence of acceptance.	Pending
Accession of OSOS web site web- spidering	 September 30 Test plan followed with evidence of acceptance. 	Pending
Phase I complete	December 31st	Pending

3.14.1 Risks & Remarks

Remark

As stated in the previous report, it was recommended by GH that strategic, tactical, and operational policies and procedures be documented and put into effect prior to the Digital Archives first full production date. The OSOS team has agreed and accepted these best practices and noted that many of them are already in process. These will continue to be tracked in the subsequent and final QA report and will not be deemed a risk unless they are not completed and in place by the production date at the end of 2004.