

## EXHIBIT 3.12 Help Desk Procedures

|  |                |
|--|----------------|
|  | Change Order # |
|  | Effective Date |

Vendor will provide a Level 2 Help Desk support structure that will interface with the Commonwealth's existing Level 1 Help Desk to provide effective problem communication and resolution. The Level 2 Help Desk will serve as a single point of contact for problems related to Designated Services and will provide 24x7x365 problem analysis and resolution support via use of a toll-free or local telephone access line for all in-scope data center support. Additionally, the Level 2 Help Desk will provide the Commonwealth Agencies with support normally provided by the Commonwealth's Level 1 Help Desk during non-prime hours and holidays. This support will be provided in support of problem analysis and problem resolution for system-related and in-scope technical support issues. Commonwealth will provide a Help Desk "filter" for agencies to ensure proper use of the Vendor Help Desk and associated routing of problem calls.

Vendor will utilize BMC Software -Remedy for problem tracking and Crystal reports for providing statistical and reporting information concerning reported problems.

### Help Desk Responsibilities:

| <b>Responsibility Key</b>  |                |              |
|--|----------------|--------------|
| X – Responsible -- The party identified has full responsibility for performing the Service.  |                |              |
| P – Principal -- The party has responsibility for performing the service and obtaining concurrence from the other party.                               |                |              |
| I – Input -- The party provides input to the Principal responsible party for the Service upon the specific request of the Principal responsible party. |                |              |
| Blank – Not Applicable   |                |              |
| Help Desk/Problem Management   | Responsibility |              |
|  | Vendor         | Commonwealth |
| Define and maintain problem management process   | P              | I            |
| Participate in the Commonwealth's problem management process   | I              | P            |
| Create and maintain accurate call list(s)  | P              | I            |
| Create and maintain escalation list(s)   | P              | I            |
| Vendor Level 2 Help Desk (for Level 2 support for in-scope problems)   |                |              |
| Provide toll-free and local telephone lines  | X              |              |
| Record all problems in tracking tool   | X              |              |
| Perform/assist with problem severity assessment  | P              |              |
| Problem assignment, if not solved on call  | X              |              |
| Notify Level 1 Help Desk of system availability  | X              |              |
| Problem resolution   | X              |              |
| Problem escalation per procedures, if necessary  | X              |              |
| Document resolution and root cause in tracking tool  | X              |              |
| Follow up to ensure resolution and satisfaction  | X              |              |
| Perform trending and analysis of documented problems   | X              |              |
| Provide problem management reports to Commonwealth   | X              |              |
| Administer problem tracking software and reporting tool  | X              |              |
| Ensure knowledge base is maintained accurately   | X              |              |
| Develop and document Level 2 Help Desk Procedures  | X              |              |
| Provide Level 1 Help Desk support for non-prime shifts   | X              |              |
| Service Level management   | X              |              |
| Commonwealth Level 1 Help Desk   |                |              |
| All prime shift Level 1 calls  |                | X            |
| Non-prime shift Level 1 calls related to systems and in-scope technical support problems   | X              |              |
| Other non-prime shift Level 1 calls  | X              |              |
| Monitor Volume/Type Commonwealth Agency Help Desk calls  |                | X            |

## EXHIBIT 3.12

### Help Desk Procedures

#### Help Desk Processes/Procedures:

##### **Vendor Help Desk**

The Vendor Help Desk is centrally organized to provide a single point of contact for technical support, operations problems and general information for all Commonwealth Agency's and Vendor personnel. The Vendor Help Desk is staffed with representatives 24 hours/day, 7 days/week, 365 days/year. Each representative works with agency and Vendor personnel to ensure satisfactory resolution of client service issues. Also each representative facilitates escalation, tracks status of problems, ensures escalation control, and provides/participates in new training for changing client needs.

Standard Vendor problem management and escalation policies are followed to ensure timely resolution.

##### **Problem Management**

Problem management involves the coordination of personnel, activities, and information to insure the most effective and timely resolution and communication of problems reported to the Vendor Help Desk. The Vendor Help Desk monitors each problem from the time reported to the time confirmed. Monitoring of problems includes the following activities:

- Document problems identified by users through problem tracking system
- Assist Commonwealth Agency with priority determination
- Assign responsibility for problems to a specific area for resolution
- Notify appropriate Vendor management
- Ensure follow-up actions are taken
- Escalate problems when necessary
- Track and report problems from identification through resolution
- Confirm (close) problems

The steps involved in problem management include:

- Reporting and Tracking
- Prioritization
- Responsibility Assignment
- Notification
- Escalation
- Resolution

##### **Problem Reporting and Tracking**

A problem tracking system is used to document, review, monitor, and report any hardware, software, procedural, and documentation problems or requests that currently or potentially impact service. Problems should be reported as soon as they are identified. It is necessary to document all requests in the tracking system to assist in controlling resolutions, monitoring problem volume, and tracking problem types.

When a problem is identified by a user, the user should call their level 1 help desk and their level 1 help desk will determine if the problem should go to Vendor level 2 help desk. The level 1 help desk should call the Vendor's level 2 help desk. The Vendor will log the problem into their tracking system and give the level 1 help desk person a problem tracking reference number. Users and Level 1 help desk should use this number to track problem status and to report any additional information related to the problem back to the Vendor. The Vendor will update the problem record with any information uncovered during problem determination and problem resolution.

At a minimum, the following information must be provided to open a problem:

- User's Name
- Commonwealth Agency/Client Name
- Complete Phone Number (including area code)
- Problem Description
- Location
- Priority

## EXHIBIT 3.12 Help Desk Procedures

With this information, the Vendor Data Center develops data to aid in efficient problem determination, resolution, and recurring problem prevention.

### Assigning Problem Severity

When a problem is identified, it is logged into the on-line problem tracking tool and assigned a priority. A problem number is automatically generated by the tracking tool to track status and closure. Severity level assignments ensure the attention and resources devoted to each problem are consistent with its impact based upon the following criteria:

| Severity   | Business Impact  |
|------------|--|
| Severity 1 | <ul style="list-style-type: none"><li>• Solid system failure, unable to execute backup or recovery procedures</li><li>• Impacts multiple applications</li><li>• Impacts multiple service level commitments</li><li>• Total loss of service to a customer set</li></ul> |
| Severity 2 | <ul style="list-style-type: none"><li>• Online application failure</li><li>• System outage—Able to execute backup or recovery procedure or no outside assistance required to restore service</li><li>• Performance degradation of critical resource</li></ul>          |
| Severity 3 | <ul style="list-style-type: none"><li>• Component failure that did not impact customer</li><li>• Batchabend</li><li>• Very low customer impact (e.g., terminal recycle, printer restart)</li><li>• Solid or intermittent problems of low impact</li></ul>              |
| Severity 4 | <ul style="list-style-type: none"><li>• Problem with a low impact on support location's ability to provide service</li><li>• No impact to customer service</li><li>• Problems with no impact on supplier's ability to provide system services</li></ul>                |

### Assigning Resolution Responsibility

The Vendor Help Desk assigns responsibility for resolving a problem to the appropriate assignee as soon as the problem is recorded. The assignee takes action on the problem to resolve it. Resolving the problem within a mutually pre-established target resolution goal is the responsibility of the assignee. If the target resolution goal cannot be met, the assignee will work with the Vendor Help Desk and the user to determine a realistic time frame. This revised time estimate must be communicated to all concerned parties immediately. Users should check the tracking system for status updates.

### Problem Escalation

Escalation procedures within the Vendor Data Center have been developed to assign each problem to the appropriate level of resources consistent with its impact. The timeframes indicated are those allotted to that escalation level to resolve the problem. Also the escalation procedures increase the level of resources as necessary to resolve problems effectively. Problem escalation is performed for all unresolved severity problems:

**EXHIBIT 3.12**  
**Help Desk Procedures**

| <b>Escalation Level</b>  | <b>Severity 1</b>  | <b>Severity 2</b>  | <b>Severity 3</b> | <b>Severity 4</b> |
|--------------------------|--|--|-------------------|-------------------|
| Help Desk                | 15 minutes   | 15 minutes   | 30 minutes        | 2 hours           |
| Tech Support             | 1 hour   | 2 hours  | 3 hours           | 4 hours           |
| Managerial               | 2 hours  | 3 hours  | 4 hours           | 8 hours           |
| Service Delivery Manager | 4 hours  | 8 hours  | 24 hours          | 48 hours          |
| Project Manager          | All relevant resources are applied until the problem is resolved | All relevant resources are applied until the problem is resolved | N/A               | N/A               |

**Problem Resolution**

Problem resolution indicates that, from a technical perspective, the request is satisfied or the problem is fixed. When a resolution has been implemented, the Vendor Data Center representative updates the problem log with the detailed resolution to be reviewed by the Commonwealth Agency Level 1 Help Desk. Before a problem is closed, all business logs associated with the problem must be completed. Resolved problems are closed once the Vendor Help Desk has confirmed resolution with the Commonwealth Agency Level 1 Help Desk.

**Problem Confirmation**

Once the problem has been updated in the tracking system with the resolution information, the Vendor Help Desk contacts the user to confirm the resolution implemented meets the user's requirements. If the resolution does not meet the user's requirements, the problem is reopened for further investigation.

The Vendor Help Desk confirms (closes) all problems they are responsible for resolving. Resolved problems are closed after the user who submitted the request approves the resolution as documented in the tracking system.

EXHIBIT 3.13  
Commonwealth of Pennsylvania  
Remote Access Capabilities

|  | Change Order # | Effective Date |
|--|----------------|----------------|
|  |                |                |

**Policy**

All such remote access capabilities shall comply with Commonwealth’s policies as set forth in ITB I.6.2 Detailed Network (LAN/WAN) Security Policy as documented at the Commonwealth’s Intranet site: [www.oit.state.pa.us](http://www.oit.state.pa.us) as of 12/04/01. BIO-DPH will notify vendor when changes are made to this policy.

Solutions deployed prior to the current policy are “grandfathered” under the policy they were implemented. For the purpose of internal solution monitoring and management as required by the contract, solutions to be deployed under the current policy are “grandfathered” under the policy implemented.

As an enterprise, the Office of Administration, Office for Information Technology (OA/OIT) employs two layers of security to help protect the Commonwealth’s computers and networks. Layer one is protection of the Commonwealth Enterprise Network, which encompasses both the Wide Area Network (WAN), the Commonwealth Metropolitan Area Network and the MAN’s connection to the Internet.

Layer two security is the responsibility of each agency and includes all computers and networks maintained or operated by the agency. Agencies cannot rely totally on network security to safeguard their computers. Effective security must be maintained for each agency computer even if there is adequate network security. Agencies are responsible for providing the necessary internal security to safeguard against unauthorized accesses/attacks from employees or others who are directly connected to agency computers or indirectly through agency Local Area Network (LAN) or agency Wide Area Network (WAN). This would include physical security, backup and recovery services. At any point where agency computers or networks (layer two) interconnect with the Commonwealth Enterprise Network (layer one), the OA/OIT and agency staffs will work cooperatively to help prohibit unauthorized access between these two layers of security. Attachment 1 graphically depicts organizational responsibility for the two layers of security.

**Policy Clarifications Regarding Remote Access Capabilities**

- Dial-in connections directly to agencies are not allowed. New remote access service must use the central remote access service that comes through the Commonwealth firewall. Existing remote access should migrate to other types of access or use the central remote access service that comes through the Commonwealth firewall.
- Dial-out connections via systems or workstations which are connected to the Commonwealth MAN are prohibited. Such connections can cause access to the

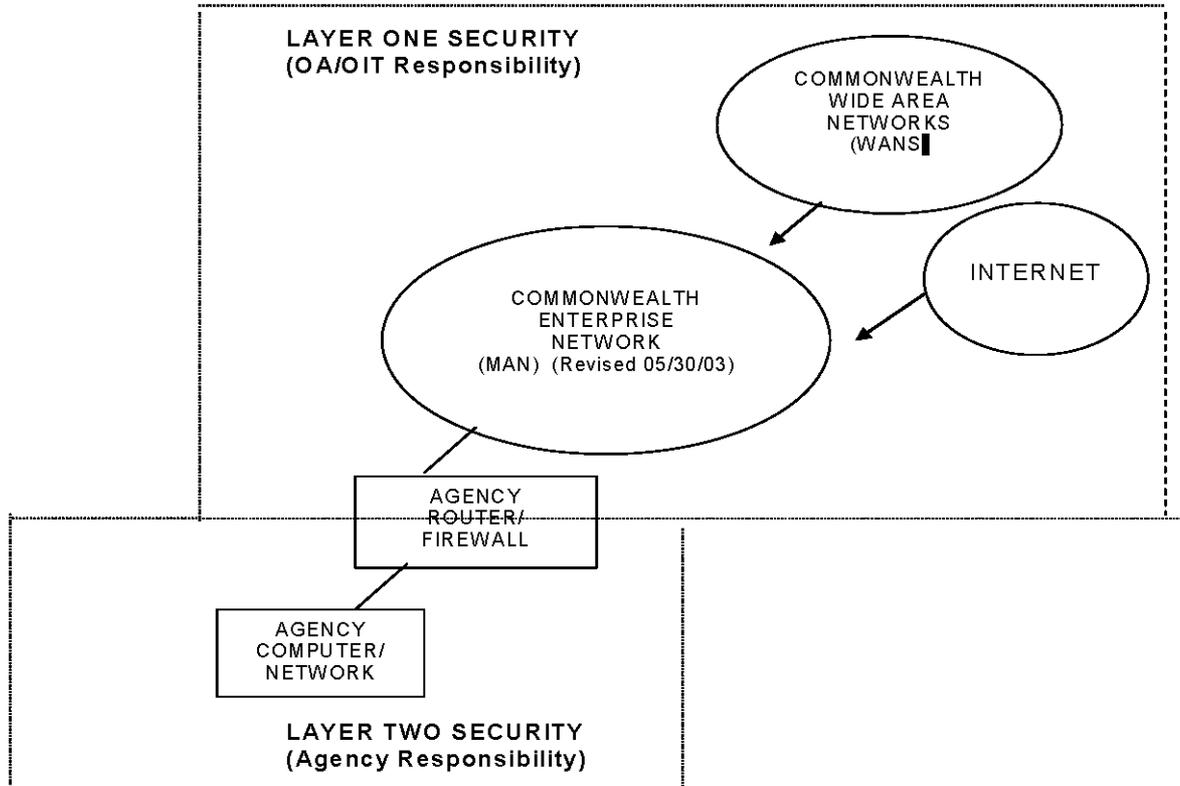
EXHIBIT 3.13  
Commonwealth of Pennsylvania  
Remote Access Capabilities

Commonwealth MAN.

- In accordance with Commonwealth Network Security Policies, the Vendor may use remote resources to perform system administration, product support, problem determination and other key functions to assist the Commonwealth and local support team. These remote resources will require network access to Commonwealth of Pennsylvania systems installed at the Data PowerHouse in Harrisburg. The Vendor will use a permanent connection (non-dial in) to a proprietary network – the IBM Information Network, or IIN – through a Foreign Business Partner (FBP) facility. The Commonwealth will provide physical access to the FBP facility for Vendor resources. The appropriate power and HVAC will be available at the FBP facility.

EXHIBIT 3.13  
Commonwealth of Pennsylvania  
Remote Access Capabilities

Attachment 1



NOTE: Agency Router/Firewall is a shared responsibility. OA/OIT is responsible to ensure no unauthorized network traffic exits agency Computer/Network onto MAN. Agency is responsible that no unauthorized network traffic exits MAN into agency Computer/Network.

**EXHIBIT 4.01**  
**Transformation Services**

1. **INTRODUCTION**

1.1 **Objective**

This Exhibit 4.01 Transformation Services sets out the Parties' responsibilities for the Transformation from existing equipment to new equipment and consolidated environments (Equipment Environments) per the terms of the Amendment.

1.2 **Transformation Plan**

Vendor shall perform the Transformation activities attributable to Vendor and set out in this Exhibit 4.01 (including without limitation the activities set out in Appendix 4.01A (*High Level Transformation Plan*) and the Detailed Transformation Plan), and take primary responsibility for the coordination of the activities of both Parties as is necessary to ensure the successful migration to new Equipment and consolidated environments on schedule and minimizing disruption to Commonwealth's business.

2. **TRANSFORMATION PROJECT OVERVIEW & OBJECTIVES**

2.1 **Overview**

Vendor will undertake a project (the "**Transformation Project**") to facilitate the migration of Equipment Environments for the Commonwealth agencies according to the architecture detailed in Appendix 4.01C (*Transformed State Technical Architecture*). The Transformation Project will last approximately fourteen (14) months, beginning on the Amendment Effective Date.

2.2 **Objectives**

The primary objectives of the Transformation Project are:

- (a) to transform the Equipment Environments with minimal disruption or degradation of service to Commonwealth End Users;
- (b) to implement technology and process changes as defined in Appendix 4.01A (*High Level Transformation Plan*), Appendix 4.01C (*Transformed State Technical Architecture*) and the Detailed Transformation Plan agreed pursuant to this Exhibit 4.01.

3. **TRANSFORMATION PLAN**

3.1 **High Level Transformation Plan**

A description of the in scope activity being performed under this Transformation Project prepared by Vendor and approved by Commonwealth as of the Amendment Effective Date is attached as Appendix 4.01A ("*High Level Transformation Plan*").

3.2 **Detailed Transformation Plan**

- (a) Vendor shall provide to Commonwealth at least thirty (30) days prior to the Amendment Effective Date a fully detailed written draft of the proposed final Transformation Plan ("**Detailed Transformation Plan**") for all affected Agencies. This shall include the activities, responsibilities, dependencies, timelines, workstreams, acceptance and completion criteria necessary to effectuate the

**EXHIBIT 4.01**  
**Transformation Services**

Transformation Plan pursuant to all Critical Transformation Milestones in a manner that is consistent with:

- (i) the High Level Transformation Plan; and
  - (ii) the obligations of this Exhibit 4.01 and the Amendment.
- (b) Commonwealth shall propose in writing within ten (10) days of receipt of the Detailed Transformation Plan all reasonable modifications necessary to make the Detailed Transformation Plan delivered by Vendor agreeable to it so that performance of the Detailed Transformation Plan may commence on the Amendment Effective Date. The Parties shall mutually agree on the final Detailed Transformation Plan within five (5) days after Commonwealth proposes any modifications to Vendor's draft of such plan. If the Parties are unable to agree to a Detailed Transformation Plan within that five (5) day period, the outstanding matters shall be referred to the Management and Control procedures set forth in Exhibit 13 of the Amendment.

**4. TRANSFORMATION PROJECT MILESTONES**

**4.1 Critical Transformation Milestones**

- (a) The critical milestones for the Transformation Project ("**Critical Transformation Milestones**"), and the due date for each such Critical Transformation Milestone are set out in Appendix 4.01B (*Critical Transformation Milestones*).
- (b) Vendor shall receive a day-for-day extension, or other extension period as may be agreed to by the Parties for each of the impacted Critical Transformation Milestone Due Dates which are directly caused by a failure by Commonwealth to perform an express Commonwealth performance obligation specified in the Detailed Transformation Plan.
- (c) Vendor shall have an obligation to notify Commonwealth as soon as reasonably practicable of the relevant failure to meet the Detailed Transformation Plan performance obligation and Vendor shall continue to use commercially reasonable efforts to continue to achieve the unadjusted Critical Transformation Milestone Due Date despite the relevant failure.

**4.2 Failure to Achieve Critical Transformation Milestones**

If Vendor does not achieve a Critical Transformation Milestone due to its default of the Critical Transformation Milestone Due Date specified in Appendix 4.01B (*Critical Transformation Milestones*), and such default was not the result of a Commonwealth requested schedule change or otherwise as a direct result of Commonwealth having failed to meet its express obligations to support the Transformation as stated in this Exhibit 4.01, then Vendor will endeavor to meet that Critical Transformation Milestone as soon as possible after the due date, at no additional charge to Commonwealth.

**5. TRANSFORMATION ACCEPTANCE TESTING**

**5.1 Acceptance Criteria**

- (a) In respect of each deliverable required to be delivered by Vendor as part of the Transformation Project as specified in the Detailed Transformation Plan (each, a "**Deliverable**"), Vendor shall include the acceptance criteria ("**Acceptance Criteria**") reflecting the requirements of Section 5.1(b) below within the Detailed

**EXHIBIT 4.01**  
**Transformation Services**

Transformation Plan. After Commonwealth approval of the Detailed Transformation Plan, any subsequent changes to the Acceptance Criteria, and subsequent dependencies or timing issues shall be agreed between the Parties in accordance with the Change Control Procedures.

- (b) The Acceptance Criteria will, where appropriate, include:
  - (i) details of the criteria to be met and the results which must be produced if the Deliverable is to be considered to have met the Acceptance Criteria; and
  - (ii) the identity of the party who shall undertake the acceptance tests.

**6. TRANSFORMATION REPORTING**

During the Transformation Period, Vendor shall provide a weekly report to Commonwealth and attend meetings/conference calls with Commonwealth to discuss the same, including:

- (a) performance of Transformation Project activities against the Detailed Transformation Plan;
- (a) milestones achieved and/or not achieved and (where not achieved) planned actions to address the failure;
- (b) risks and issues associated with the Transformation Project and plans and actions undertaken or planned to be undertaken to mitigate such risks and issues;
- (c) any proposed changes to the current Detailed Transformation Plan; and
- (d) such other information and planning as is reasonably necessary for all Transformation Project activities to be completed on schedule.

**7. TRANSFORMATION SCHEDULE CHANGES**

- 7.1 Upon written notice from Commonwealth specifying that Commonwealth desires Vendor to suspend, extend or modify the timing of Transformation Project activities, Vendor will accommodate such request for the requested period of time. The completion dates for the Critical Transformation Milestones and other date specific activities set out in the High Level Transformation Plan and the Detailed Transformation Plan shall be extended on a day-for-day basis, or such other duration as agreed between the Parties, equal to the length of the Transformation Project schedule extension, suspension or modification requested by Commonwealth.
- 7.2 In the event Commonwealth and Vendor agree to extend or compress a Key Transformation Milestone pursuant to Section 7.1 above, Commonwealth and Vendor shall negotiate an adjustment to the Fees, if and to the extent such adjustment is appropriate to accurately reflect a material economic impact of such extension or compression to Vendor. Each party will in all cases take such measures as are commercially reasonable to minimize the duration of any such extension and the economic impact of any such extension or compression.
- 7.3 The Commonwealth shall not be obliged for any associated costs or subject to any adjustment in Fees related to Transformation unless Vendor is required to extend a transformation schedule pursuant to Section 7.1 and Section 7.2 above or otherwise as a direct result of Commonwealth having failed to meet its express obligations to support the Transformation as stated in this Exhibit 4.01, and then only after Vendor has made all commercially reasonable efforts to mitigate costs associated with such delay.

**EXHIBIT 4.01**  
**Transformation Services**

7.4 Change Control

- (a) Subject to Section 7.3 above, for all High Level Transformation Plan and Critical Transformation Milestone schedule suspensions, extensions or modifications, the Parties will document such changes using the Change Control Procedures. For all such all High Level Transformation Plan and Critical Transformation Milestone schedule changes, Vendor shall maintain the availability of the Vendor Transformation team. Commonwealth shall not be charged any additional Transformation Project Charges or other Charges if Vendor can redeploy its Transformation Project resources on other Commonwealth activities related to the Agreement, and where Vendor is not able to redeploy its Transformation Project resources, Vendor shall detail such costs in the applicable Change Order and Commonwealth shall pay Vendor for such agreed amounts.
- (b) To the extent Vendor incurs reasonable, unavoidable, incremental costs associated with resources that are not substantially dedicated to the Transformation Project and that arise directly from a Commonwealth-requested Transformation Project modification, then Vendor shall detail such costs in the applicable Change Order and Commonwealth shall pay Vendor for such agreed amounts.

8. **PROGRAM MANAGEMENT**

8.1 **Requirements of the Detailed Transformation Plan**

The Detailed Transformation Plan will include, without limitation:

- (a) all of the Transformation tasks necessary to migrate each of the Equipment Environments;
- (b) the dates for each Critical Transformation Milestone as listed in Appendix 4.01B (*Critical Transformation Milestones*);
- (c) detailed lists of responsibilities for Commonwealth and Vendor during the Transformation Period.
- (d) Commonwealth shall provide project management responsibility for the application migration activities on behalf of each participating Agency, such activities being outlined in the Detailed Transformation Plan.

8.2 **Service Teams**

The Parties will form functional teams of subject matter experts ("SMEs") from Commonwealth and Vendor. The teams will be led by a process leader who is the designated lead Vendor SME ("**Process Leader**") and supported by a process owner who is the designated lead Commonwealth SME ("**Process Owner**"). The Process Leaders are responsible, with reasonable cooperation from the Process Owners, for planning the Transformation of the Services for which they are responsible according to the Detailed Transformation Plan and agreed timeline. Each team will follow the mutually-agreed methodology developed by Vendor to identify specific areas for Transformation. Application of the methodology will include an analysis of current processes to capture areas for improvement, including any bottlenecks, issues and changes that have been identified by either Commonwealth or Vendor.

**EXHIBIT 4.01**  
**Transformation Services**

**8.3 Key Transformation Plan Deliverables**

The Vendor Transformation Project Manager (as defined in Exhibit 12.03 (*Key Employees*) of the Amendment) is responsible for integrating the work activity across the multiple Transformation program work streams during the Transformation Period. Key Transformation Plan deliverables to be produced and managed by Vendor throughout this process include:

- (a) an overall Transformation Plan with focus on Critical Transformation Milestones and dependencies;
- (b) a Detailed Transformation Plan with detailed action steps, Critical Transformation Milestones, and Deliverables on an Agency-by-Agency basis;
- (c) a technology transformation plan with detailed action steps, Critical Transformation Milestones and Deliverables;
- (d) weekly status reporting to update key stakeholders for Commonwealth and Vendor on Transformation progress and issues; and
- (e) an issue log, providing a summary of issues that must be addressed for the Transformation Project to be successful and timely completed.

**9. TRANSFORMED TECHNICAL ARCHITECTURE**

Schematic diagrams that illustrate the transformed technical architecture supporting the Services are attached as Appendix 4.01C (*Transformed State Technical Architecture*).

**Exhibit 4.01A  
High Level Transformation Plan**

The transformation plan includes tasks to accomplish the following technology upgrades. All applicable exhibits will be updated as appropriate upon completion of the transformation process for each agency.

**1.1 Open Systems**

This solution includes the elements for Intel/AMD server Windows based workloads as described in the table below.

| <i>Proposed Technical Architecture - Open Systems</i>   |
|---|
| <ul style="list-style-type: none"> <li>• Highly available cluster of six (6) enterprise class 8-way servers to provide a virtualization infrastructure which will consolidate workloads from existing Windows physical servers based on the modeling study completed using the Platespin PowerRecon tool. These six physical servers running the VMware ESX operating system will be implemented in a highly available, load balanced configuration.</li> <li>• Virtualization infrastructure will be supported by VMware Infrastructure V3 software toolset.</li> <li>• Platespin Power Recon and PowerConvert tools will be used to manage the analysis and virtualization of Windows physical server workloads.</li> <li>• The physical server configuration for the VMware virtualization is sized with a headroom capacity buffer of 25% to accommodate utilization peaks that were not detected during the workload characterization effort.</li> </ul> |
| <ul style="list-style-type: none"> <li>• ES 7000 technology refresh</li> <li>• Eleven (11) Intel 4-processor systems will be used to provide a technology refresh for database servers approaching end of service life.</li> </ul>  |
| <ul style="list-style-type: none"> <li>• Twenty eight (28) 2-way and 4-way commodity servers to refresh assets reaching end of service life by December 31, 2008.</li> <li>• Distribution               <ul style="list-style-type: none"> <li>➢ DOI – One (1) 2-way</li> <li>➢ DPW – Eleven (11) 2-way</li> <li>➢ DPW – Eight (8) 4-way</li> <li>➢ Enterprise Systems Management – Eight (8) 2-way</li> </ul> </li> </ul>  |
| <ul style="list-style-type: none"> <li>• Seventeen (17) standalone servers to refresh assets reaching end of service life by December 31, 2008 that were initially proposed as virtual hosts for PSERS.</li> </ul>  |

**1.2 Unisys Enterprise Servers (Mainframes)**

This solution includes the replacement of all currently installed OS2200 and NX based Unisys Enterprise Server (mainframes) workloads as described in the tables below. Commonwealth agrees to migrate the mass audit trails running on the 2200/Dorado based systems from tape to disk storage for DPW workloads.

**Exhibit 4.01A  
High Level Transformation Plan**

| <i>Proposed Technical Architecture – Unisys Mainframes</i>  |   |
|---|---|
| <ul style="list-style-type: none"> <li>• Consolidation of workloads onto four (4) new enterprise servers with discrete partitions at Data PowerHouse facility</li> <li>• Installation of two (2) dedicated enterprise servers for disaster recovery services</li> </ul> |   |
| <i>Future Unisys Systems and Workloads at DPH</i>   | <i>Future Unisys Disaster Recovery Systems and Workloads</i>  |
| <b>Dorado 380</b><br><ul style="list-style-type: none"> <li>• [REDACTED]</li> <li>• [REDACTED]</li> <li>• [REDACTED]</li> <li>• [REDACTED]</li> </ul>   |   |
| <b>Dorado 350</b><br><ul style="list-style-type: none"> <li>• [REDACTED]</li> <li>• [REDACTED]</li> </ul>   | <b>Dorado 380</b><br><ul style="list-style-type: none"> <li>• [REDACTED]</li> <li>• [REDACTED]</li> <li>• [REDACTED]</li> </ul> |
| <b>Libra 400</b><br><ul style="list-style-type: none"> <li>• [REDACTED]</li> </ul>  |   |
| <b>Libra 400</b><br><ul style="list-style-type: none"> <li>• [REDACTED]</li> </ul>  | <b>Libra 400</b><br><ul style="list-style-type: none"> <li>• [REDACTED]</li> </ul>  |

**1.3 IBM Enterprise Servers (Mainframes and Mid-range)**

This solution includes the consolidation of all currently installed enterprise and mid-range servers (mainframes) workloads as described in the table below. IBM midrange servers may be referred to as AS/400, i-series or OS/400 systems.

| <i>Proposed Technical Architecture – IBM Mainframe and Mid-range Systems</i>  |
|---|
| <ul style="list-style-type: none"> <li>• Consolidation of five (5) IBM mainframe workloads ([REDACTED]) onto the current System z 2094 Enterprise Class server. Memory and central processor (CP) capacity will be added to accommodate the increased workload.</li> <li>• Features include: <ul style="list-style-type: none"> <li>• One (1) System z Integrated Information Processor (zIIP) specialty engine</li> <li>• One (1) Additional Integrated Facility for Linux (IFL) specialty engine</li> <li>• Two (2) Crypto Express cards</li> </ul> </li> <li>• System z enterprise server will run z/OS, z/VM, z/VSE and z/Linux operating systems.</li> <li>• Consolidation of the three (3) standalone mid-range systems onto one (1) System i-server</li> </ul> |

**Exhibit 4.01A**  
**High Level Transformation Plan**

**1.4 Unix Servers**

The existing UNIX servers in the Data PowerHouse will not be refreshed.

**1.5 LAN/WAN Network and Security Infrastructure**

This solution includes upgrades to the DPH network infrastructure to provide improved utilization of core assets as described in the table below. Commonwealth agrees to standardize on the use of the Internet Protocol (IP) for network traffic and will eliminate requirements for support of additional network protocols e.g. SNA. In addition, the Commonwealth agrees to install additional fiber connectivity between the Data PowerHouse and Commonwealth Technology Center facilities.

***Proposed Technical Architecture – LAN/WAN Network and Security Infrastructure***

- Implementation of a shared network infrastructure, consolidation of core switches, and implementation of a multiple connection methodology between the CTC and DPH.
- Additional investment to upgrade firewall systems and enhance security infrastructure and services with additional VPN, intrusion detection/prevention, and threat monitoring capabilities.

**1.6 Storage/SAN Infrastructure**

This solution includes upgrades to the DPH storage area network (SAN) infrastructure to provide improved utilization of core assets as described in the table below.

***Proposed Technical Architecture – Storage/SAN Infrastructure***

- Shared, secure, tiered storage architecture with upgrades to storage capacity for mainframe and open systems
- Unisys will migrate 27.5 Terabytes of Tier 3 storage from 7 older CLARiiON CX-400, CX-600 and CX-700 storage frames onto IBM DS8300 disk system frames to meet current needs as well as to bring a great expansion capacity for both storage and I/O.
- Existing EMC DMX3 frame will be upgraded to provide Tier 1 and Tier 2 storage for the Unisys Mainframe.
- IBM Mainframe will continue to use the IBM DS8100 Storage frames. One DS8100 device will be upgraded to a DS8300.
- An additional Enterprise Storage Server DS8300 will be added to increase storage capacity.
- Two (2) Cisco 9513 enterprise class Storage Area Network switches will be installed to replace aging Brocade 12000 SAN switches

**Exhibit 4.01A**  
**High Level Transformation Plan**

**1.7 Tape/Archive Infrastructure**

This solution includes upgrades to the DPH tape/archive infrastructure to provide improved utilization of core assets as described in the table below. Unisys will continue to provide media and off-site storage of tapes for backup/recovery and disaster recovery services.

| <i>Future Solution</i>  |
|---|
| <ul style="list-style-type: none"><li>• Replacement of obsolete libraries and consolidation of tape drives within IBM Automated Tape Libraries and the Sun/StorageTek SL8500; tape libraries will be shared across agencies</li><li>• Environment will be upgraded to standardize on IBM 3592, LTO GEN-3, or 9840c tape drives, except where legacy applications require support of legacy tape drives.</li><li>• Virtual tape systems will be implemented to support backup environments; all VMware virtual servers will be backed up using Veritas Netbackup; the backup schedule for the VMware service infrastructure will follow a schedule of 1 weekly full backup and 6 daily incremental backups for each VMware physical instance</li><li>• Solution will included a Sun STK SL500 dedicated tape drive library to be installed at the Commonwealth Technology Center to support disaster recovery of the [REDACTED] environment.</li><li>• The solution does not include replication software or redundant storage</li></ul> |

**1.8 Disaster Recovery Services**

The currently contracted solution for DR services will be extended per the terms of this Amendment. Dedicated Unisys hardware will be refreshed at the SunGard facility as described in Section 3.1.2 Unisys Enterprise Servers (Mainframes). For IBM provided disaster recovery services, the SunGard solution for DR services will be replaced in September 2009 with services at IBM's Sterling Forest facility in New York. All other contractually provided DR services for Critical Applications will continue unchanged.

**1.9 [REDACTED] Clearpath/Dorado Workload Migration**

[REDACTED] will be provided with a metered ClearPath/Dorado mainframe system with a software license term of 78 months. The term will begin on the scheduled transformation date for this system which is tentatively scheduled for February 2009.

The following information was provided by [REDACTED] and was used to determine the total number of MIPs needed for the 78 month term.

**Exhibit 4.01A  
High Level Transformation Plan**

| Application  | Percentage Utilization* | Date to Move from MF   | Status    |
|--|-------------------------|--|-----------|
| ██████████   | 3.3%                    | January 1, 2008  | Completed |
| ██████████   | 55.6%                   | April 2011   |           |
| Others<br>- ██████████<br>- ██████████<br>- ██████████<br>- ██████████<br>- ██████████ | 41.1%                   | Remaining Applications will be migrated from mainframe by 12/31/14 |           |

\* After April 2011, percentage utilization will change due to migration of the ██████████ application from the Clearpath/Dorado mainframe system.

**2.1 Flexible Service Offerings**

The table below provides the Service Support Attributes included in the vendors' Flexible Service Offerings. Post-Transformation Fees are based upon the mix of Gold (50%), Silver (25%), and Bronze (25%) agreed to by the Commonwealth. Contract Exhibit 21.01C presents the pricing methodology for these services. Fees will vary in the event the mix is changed by the Commonwealth. Modifications to the mix would become effective by Change Order.

| <i>Service Support Attributes</i>                | <i>Gold</i>            | <i>Silver</i>     | <i>Bronze</i>     |
|--|------------------------|-------------------|-------------------|
| Service Support Coverage                         | 7 X 24                 | 5 X 12            | 5 X 9             |
| Event Notification – Severity 1                  | 15 Minutes             | 30 Minutes        | 60 Minutes        |
| Incident Response                                | 15 Minutes             | 30 Minutes        | 60 Minutes        |
| Incident Resolution or Workaround                | 4 Hours                | 8 Hours           | 2 Business days   |
| Approved Emergency Patch Implementation          | 5 Hours                | 1 Business Day    | 2 Business Days   |
| Approved Emergency Change Request Implementation | 24 Hours               | 48 Hours          | 72 Hours          |
| Approved Normal Change Request Implementation    | 3 Business Days        | 5 Business Days   | 10 Business Days  |
| Time to Perform Root Cause Analysis              | 2 Business Days        | 3 Business Days   | 5 Business Days   |
| Operating System Configuration Changes           | 6 per year/server      | 3 per year/server | 2 per year/server |
| Hardware Maintenance (Days X Hours X Response)   | 7x24x4                 | 7x24x8            | 5x9xNBD*          |
| Capacity Management Review                       | 2 times per year       | 1 time per year   | N/A               |
| Performance Management Review                    | 12 times per year      | 4 times per year  | 2 times per year  |
|  | <b>Base Services</b>   |                   |                   |
|  | Service Support        | Service Delivery  | Governance        |
|  | Program Administration | Facilities        | Network Services  |

**2.2 Post Transformation Resource Utilization**

Contract Exhibit 3.03 Headroom Capacity has been updated to include information regarding the baseline mainframe capacity planned for processing and storage requirements. In addition, the 80% threshold field for mainframe MIPS and storage has been updated to reflect the utilization level that would trigger a change order to add capacity or upgrade the machine.

**Exhibit 4.01A**  
**High Level Transformation Plan**

Expected resource utilization for the VMware virtualization environment has been modeled using the Platespin PowerRecon product. The system design of the physical servers for the VMware environment includes approximately 25% additional capacity to accommodate workload utilization peaks which may not have been identified during the data collection and modeling study.

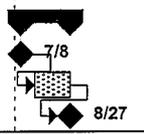
Vendor will reassess Windows physical server workload utilization immediately prior to the planned transformation to the VMware virtualization environment and will compare this information to the baseline workload characterization study. To the extent that resource utilization has increased due to Commonwealth workload changes, Vendor will request a change order to provide additional capacity to ensure that a 25% buffer is maintained. Upon completion of transformation, Unisys will provide additional physical capacity for the VMware environment to maintain a 25% capacity buffer should it be determined that the proposed solution capacity is determined to be insufficient and the shortfall is not caused by agency incremental workload growth

### Appendix 4.01B Critical Transformation Milestones

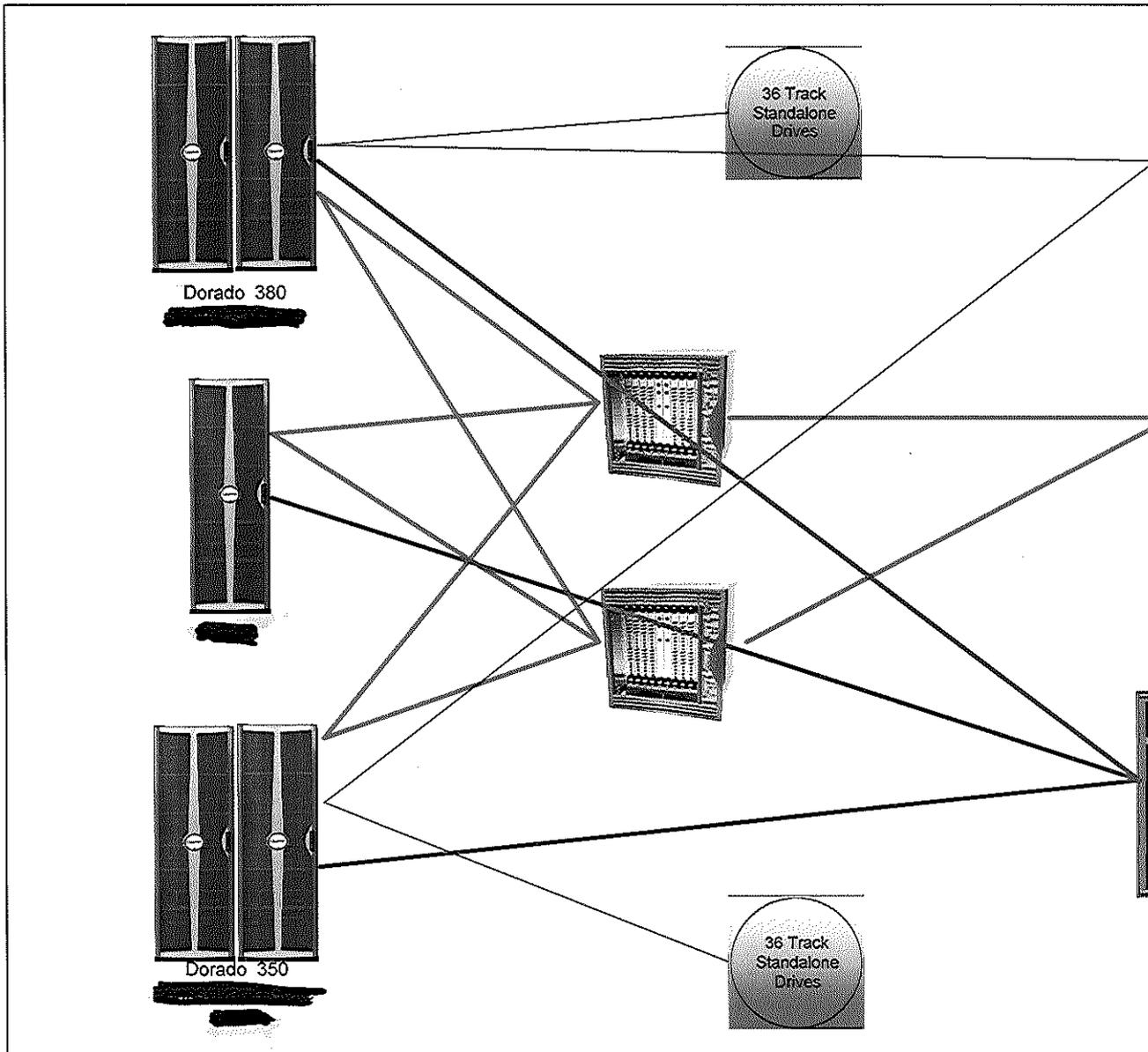
| ID | Task Name   | Duration        | Start               | Finish              | alf   |       |       |
|----|---|-----------------|---------------------|---------------------|-------|-------|-------|
|    |   |                 |                     |                     | Qtr 2 | Qtr 3 | Qtr 4 |
| 1  | <b>Data PowerHouse Project Transformation Critical Milestones</b>     | <b>392 days</b> | <b>Tue 7/1/08</b>   | <b>Wed 12/30/09</b> |       |       |       |
| 2  | Data PowerHouse Transformation Project Executive Kick-Off Meeting     | 0 days          | Tue 7/1/08          | Tue 7/1/08          |       | 7/1   |       |
| 3  | <b>Transformation Department of Public Welfare (DPW)</b>              | <b>155 days</b> | <b>Mon 12/15/08</b> | <b>Fri 7/17/09</b>  |       |       |       |
| 4  | DPW Executive Kick-Off Meeting  | 0 days          | Mon 12/15/08        | Mon 12/15/08        |       |       |       |
| 5  | DPW Agency Testing - System A   | 129 days        | Mon 12/29/08        | Thu 6/25/09         |       |       |       |
| 6  | DPW Agency Testing - System C   | 145 days        | Mon 12/29/08        | Fri 7/17/09         |       |       |       |
| 7  | DPW Agency Testing - System F (PACSES)                                | 119 days        | Mon 12/29/08        | Thu 6/11/09         |       |       |       |
| 8  | DPW Transformation Acceptance Testing Complete                        | 0 days          | Fri 7/17/09         | Fri 7/17/09         |       |       |       |
| 9  | <b>Transformation Department of State (DOS)</b>                       | <b>59 days</b>  | <b>Mon 12/15/08</b> | <b>Thu 3/5/09</b>   |       |       |       |
| 10 | DOS Executive Kick-Off Meeting  | 0 days          | Mon 12/15/08        | Mon 12/15/08        |       |       |       |
| 11 | DOS Agency Testing  | 49 days         | Mon 12/29/08        | Thu 3/5/09          |       |       |       |
| 12 | DOS Transformation Acceptance Testing Complete                        | 0 days          | Thu 3/5/09          | Thu 3/5/09          |       |       |       |
| 13 | <b>Transformation PA State Police Production (PSP)</b>                | <b>117 days</b> | <b>Wed 8/27/08</b>  | <b>Thu 2/5/09</b>   |       |       |       |
| 14 | PSP Executive Kick-Off Meeting  | 0 days          | Wed 8/27/08         | Wed 8/27/08         |       | 8/27  |       |
| 15 | PSP Agency Testing  | 107 days        | Wed 9/10/08         | Thu 2/5/09          |       |       |       |
| 16 | PSP Transformation Acceptance Testing Complete                        | 0 days          | Thu 2/5/09          | Thu 2/5/09          |       |       |       |
| 17 | <b>Transformation Public School Employees Retirement (PSERS)</b>      | <b>59 days</b>  | <b>Mon 1/19/09</b>  | <b>Thu 4/9/09</b>   |       |       |       |
| 18 | PSERS Executive Kick-Off Meeting                                      | 0 days          | Mon 1/19/09         | Mon 1/19/09         |       |       |       |
| 19 | PSERS Agency Testing  | 49 days         | Mon 2/2/09          | Thu 4/9/09          |       |       |       |
| 20 | PSERS Transformation Acceptance Testing Complete                      | 0 days          | Thu 4/9/09          | Thu 4/9/09          |       |       |       |
| 21 | <b>Transformation Public Utility Commission (PUC)</b>                 | <b>1 day</b>    | <b>Tue 7/1/08</b>   | <b>Tue 7/1/08</b>   |       |       |       |
| 22 | PUC Executive Kick-Off Meeting  | 0 days          | Tue 7/1/08          | Tue 7/1/08          |       | 7/1   |       |
| 23 | PUC Agency Testing - No Planned Transformation Activity               | 1 day           | Tue 7/1/08          | Tue 7/1/08          |       |       |       |
| 24 | PUC Transformation Acceptance Testing Complete                        | 0 days          | Tue 7/1/08          | Tue 7/1/08          |       | 7/1   |       |
| 25 | <b>Transformation Game Commission (Game)</b>                          | <b>80 days</b>  | <b>Mon 7/7/08</b>   | <b>Fri 10/24/08</b> |       |       |       |
| 26 | Game Executive Kick-Off Meeting                                       | 0 days          | Mon 7/7/08          | Mon 7/7/08          |       | 7/7   |       |
| 27 | Game Agency Testing   | 70 days         | Mon 7/21/08         | Fri 10/24/08        |       |       |       |
| 28 | Game Transformation Acceptance Testing Complete                       | 0 days          | Fri 10/24/08        | Fri 10/24/08        |       |       | 10/24 |
| 29 | <b>Transformation Department of Insurance (DOI)</b>                   | <b>143 days</b> | <b>Mon 7/7/08</b>   | <b>Wed 1/21/09</b>  |       |       |       |
| 30 | DOI Executive Kick-Off Meeting  | 0 days          | Mon 7/7/08          | Mon 7/7/08          |       | 7/7   |       |
| 31 | DOI Agency Testing - Virtualization                                   | 50 days         | Mon 7/21/08         | Fri 9/26/08         |       |       |       |
| 32 | DOI Agency Testing - Server Transition - Physical Refresh             | 11 days         | Wed 1/7/09          | Wed 1/21/09         |       |       |       |
| 33 | DOI Transformation Acceptance Testing Complete                        | 0 days          | Wed 1/21/09         | Wed 1/21/09         |       |       |       |
| 34 | <b>Transformation Department of Labor &amp; Industry (L&amp;I UC)</b> | <b>97 days</b>  | <b>Tue 8/18/09</b>  | <b>Wed 12/30/09</b> |       |       |       |
| 35 | L&I UC Executive Kick-Off Meeting                                     | 0 days          | Tue 8/18/09         | Tue 8/18/09         |       |       |       |
| 36 | L&I UC Agency Testing   | 87 days         | Tue 9/1/09          | Wed 12/30/09        |       |       |       |
| 37 | L&I UC Transformation Acceptance Testing Complete                     | 0 days          | Wed 12/30/09        | Wed 12/30/09        |       |       |       |
| 38 | <b>Transformation Department of Labor &amp; Industry (BOIS)</b>       | <b>75 days</b>  | <b>Mon 2/16/09</b>  | <b>Fri 5/29/09</b>  |       |       |       |
| 39 | L&I BOIS Executive Kick-Off Meeting                                   | 0 days          | Mon 2/16/09         | Mon 2/16/09         |       |       |       |
| 40 | L&I BOIS Agency Testing   | 65 days         | Mon 3/2/09          | Fri 5/29/09         |       |       |       |
| 41 | L&I BOIS Transformation Acceptance Testing Complete                   | 0 days          | Fri 5/29/09         | Fri 5/29/09         |       |       |       |
| 42 | <b>Transformation Department of Corrections (DOC)</b>                 | <b>97 days</b>  | <b>Fri 4/17/09</b>  | <b>Mon 8/31/09</b>  |       |       |       |
| 43 | DOC Executive Kick-Off Meeting  | 0 days          | Fri 4/17/09         | Fri 4/17/09         |       |       |       |
| 44 | DOC Agency Testing  | 87 days         | Fri 5/1/09          | Mon 8/31/09         |       |       |       |

### Appendix 4.01B Critical Transformation Milestones

| ID | Task Name  | Duration        | Start              | Finish             | 2nd Half |       |       |
|----|--|-----------------|--------------------|--------------------|----------|-------|-------|
|    |  |                 |                    |                    | alf      | Qtr 3 | Qtr 4 |
| 45 | DOC Transformation Acceptance Testing Complete                     | 0 days          | Mon 8/31/09        | Mon 8/31/09        |          |       |       |
| 46 | <b>Transformation Department of Revenue (DOR)</b>                  | <b>249 days</b> | <b>Wed 9/17/08</b> | <b>Mon 8/31/09</b> |          |       |       |
| 47 | DOR Executive Kick-Off Meeting                                     | 0 days          | Wed 9/17/08        | Wed 9/17/08        |          |       |       |
| 48 | DOR Agency Testing - Storage Upgrade                               | 43 days         | Wed 10/1/08        | Fri 11/28/08       |          |       |       |
| 49 | DOR Agency Testing - Tape Upgrade                                  | 87 days         | Fri 5/1/09         | Mon 8/31/09        |          |       |       |
| 50 | DOR Transformation Acceptance Testing Complete                     | 0 days          | Mon 8/31/09        | Mon 8/31/09        |          |       |       |
| 51 | <b>Transformation Department of Transportation (DOT)</b>           | <b>96 days</b>  | <b>Fri 4/17/09</b> | <b>Fri 8/28/09</b> |          |       |       |
| 52 | DOT Executive Kick-Off Meeting                                     | 0 days          | Fri 4/17/09        | Fri 4/17/09        |          |       |       |
| 53 | DOT Agency Testing   | 86 days         | Fri 5/1/09         | Fri 8/28/09        |          |       |       |
| 54 | DOT Transformation Acceptance Testing Complete                     | 0 days          | Fri 8/28/09        | Fri 8/28/09        |          |       |       |
| 55 | <b>Transformation Liquor Control Board (LCB)</b>                   | <b>75 days</b>  | <b>Fri 4/17/09</b> | <b>Thu 7/30/09</b> |          |       |       |
| 56 | LCB Executive Kick-Off Meeting                                     | 0 days          | Fri 4/17/09        | Fri 4/17/09        |          |       |       |
| 57 | LCB Agency Testing   | 65 days         | Fri 5/1/09         | Thu 7/30/09        |          |       |       |
| 58 | LCB Transformation Acceptance Testing Complete                     | 0 days          | Thu 7/30/09        | Thu 7/30/09        |          |       |       |
| 59 | <b>Transformation Department of Health (DOH)</b>                   | <b>97 days</b>  | <b>Fri 4/17/09</b> | <b>Mon 8/31/09</b> |          |       |       |
| 60 | DOH Executive Kick-Off Meeting                                     | 0 days          | Fri 4/17/09        | Fri 4/17/09        |          |       |       |
| 61 | DOH Agency Testing   | 87 days         | Fri 5/1/09         | Mon 8/31/09        |          |       |       |
| 62 | DOH Transformation Acceptance Testing Complete                     | 0 days          | Mon 8/31/09        | Mon 8/31/09        |          |       |       |
| 63 | <b>Transformation State Civil Service Commission (SCSC)</b>        | <b>53 days</b>  | <b>Fri 4/17/09</b> | <b>Tue 6/30/09</b> |          |       |       |
| 64 | SCSC Executive Kick-Off Meeting                                    | 0 days          | Fri 4/17/09        | Fri 4/17/09        |          |       |       |
| 65 | SCSC Agency Testing  | 43 days         | Fri 5/1/09         | Tue 6/30/09        |          |       |       |
| 66 | SCSC Transformation Acceptance Testing Complete                    | 0 days          | Tue 6/30/09        | Tue 6/30/09        |          |       |       |
| 67 | <b>Transformation Department of Aging (Aging)</b>                  | <b>52 days</b>  | <b>Mon 1/19/09</b> | <b>Tue 3/31/09</b> |          |       |       |
| 68 | Aging Executive Kick-Off Meeting                                   | 0 days          | Mon 1/19/09        | Mon 1/19/09        |          |       |       |
| 69 | Aging Agency Testing   | 42 days         | Mon 2/2/09         | Tue 3/31/09        |          |       |       |
| 70 | Aging Transformation Acceptance Testing Complete                   | 0 days          | Tue 3/31/09        | Tue 3/31/09        |          |       |       |
| 71 | <b>Transformation Department of Environmental Protection (DEP)</b> | <b>37 days</b>  | <b>Tue 7/8/08</b>  | <b>Wed 8/27/08</b> |          |       |       |
| 72 | DEP Executive Kick-Off Meeting                                     | 0 days          | Tue 7/8/08         | Tue 7/8/08         |          |       |       |
| 73 | DEP Agency Testing   | 27 days         | Tue 7/22/08        | Wed 8/27/08        |          |       |       |
| 74 | DEP Transformation Acceptance Testing Complete                     | 0 days          | Wed 8/27/08        | Wed 8/27/08        |          |       |       |

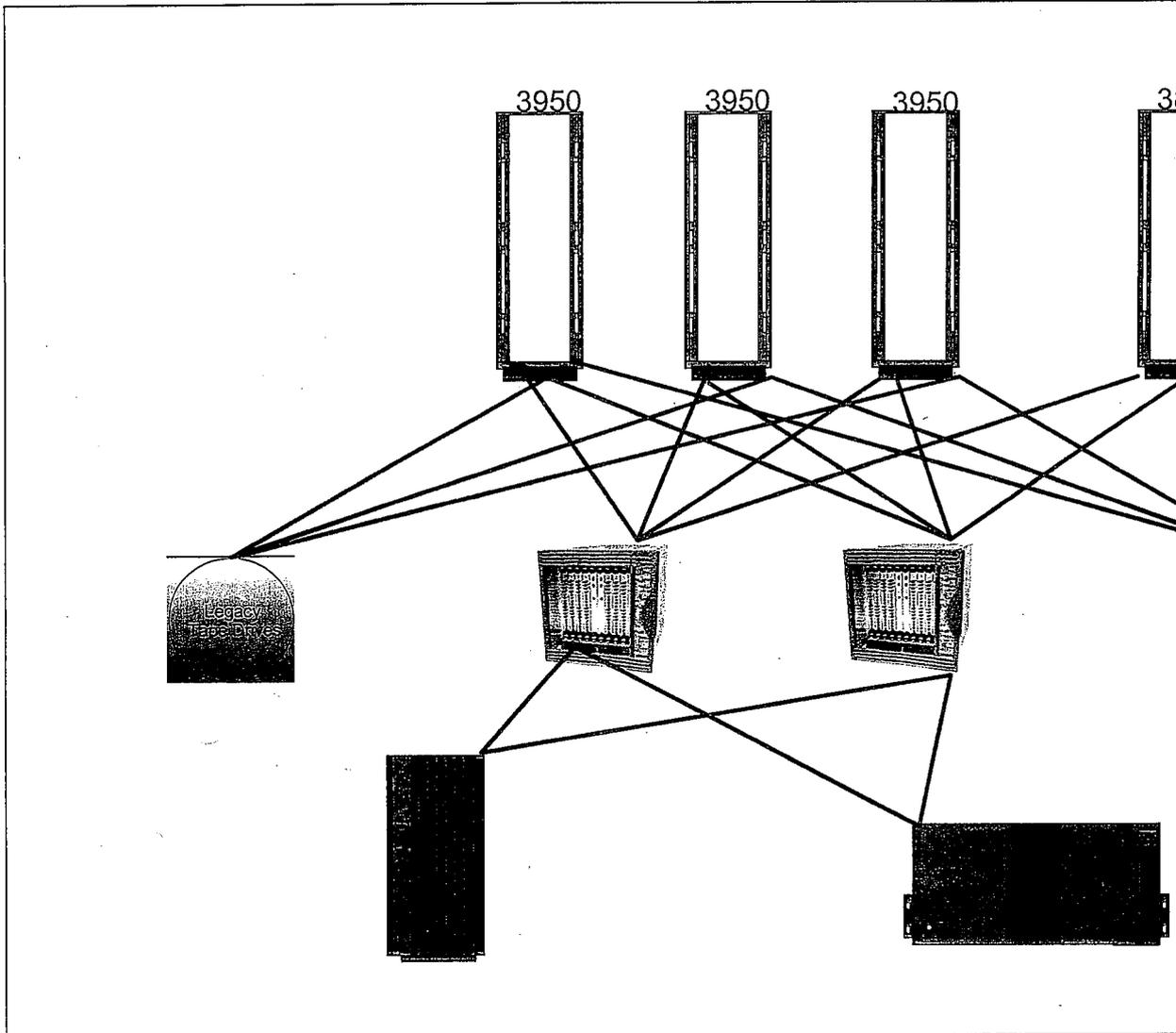


**Exhibit 4.01C  
Transformation Architecture**



|               |                           |                              |  |
|---------------|---------------------------|------------------------------|--|
| <i>unisys</i> | <b>Global Outsourcing</b> | Date Last Edited 03/12/08    | M                                      |
|               |                           | Proprietary and Confidential | Author: John Gayman<br>Unisys Hardware |

**Exhibit 4.01C  
Transformation Architecture**



**UNISYS**

**Global Outsourcing**

Date Last Edited : 03/12/08

Proprietary and Confidential

**COP**

Unisys-Support

Author: John Gayman

Unisys Hardware@31208

Exhibit 4.01C  
Transformation Architecture

ADES Solution Strategy Documentation

Current Technical Environment

Mainframes (5)

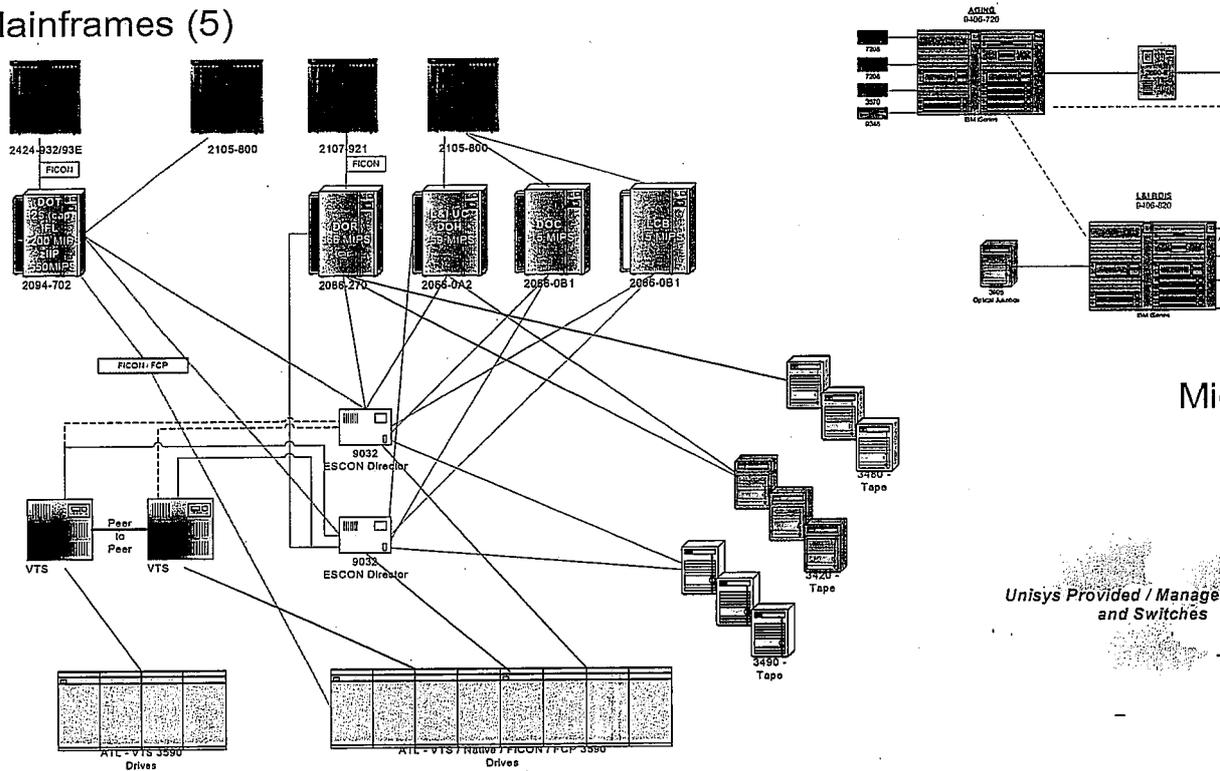
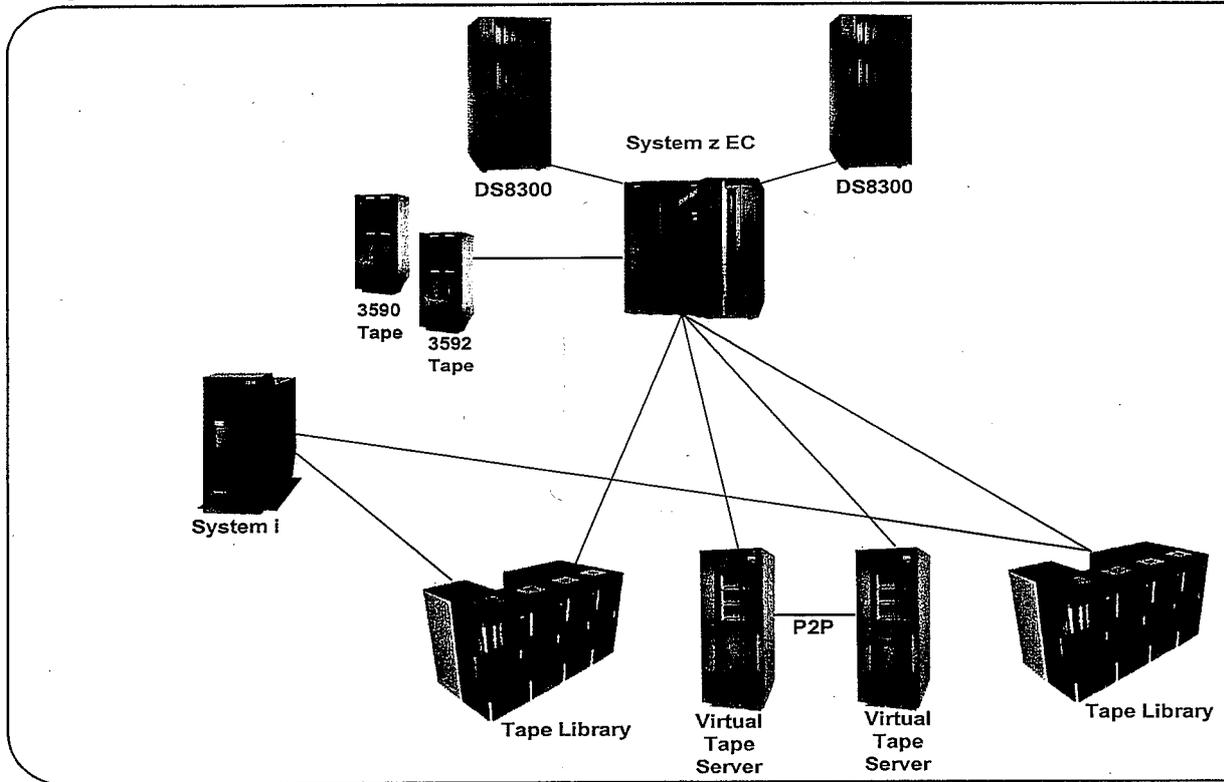


Exhibit 4.01C  
Transformation Architecture

ADES Solution Strategy Documentation

### Proposed Technical Environment



**Exhibit 6.03  
Designated Service Levels**

|  | Change Order # | Effective Date |
|--|----------------|----------------|
|  |                |                |

**Method for Obtaining Baseline:**

For each Commonwealth Agency, Designated Services Level Agreement (SLA) measurements will be based upon data collected by that Commonwealth Agency for the 90 day period immediately preceding the transfer of operational responsibility for that Commonwealth Agency's production data processing and technical support to Vendor. The data will be collected and delivered to Vendor incrementally, either weekly or monthly. The Commonwealth Agency will determine which increment to use.

Penalties in the form of credits to the impacted Commonwealth Agencies may be initiated 30 days after the transfer of operational and technical support responsibility for a particular Commonwealth Agency and in accordance with the other provisions of the Agreement.

If for any reason Commonwealth decides it is not in the best interests of a Commonwealth Agency to collect the baseline information 90 days prior, the Commonwealth may elect to use the period 90 days after transfer of operational responsibility to Vendor. Under these circumstances, penalties in the form of credits may be initiated 120 days after the transfer of operational and technical support responsibility.

Due to the specialized nature of the AS/400 platform, Commonwealth has elected to have Vendor conduct a Monthly Service Review Meeting in conjunction with a limited subset of Designated Service Levels. See *Service Level Considerations for AS/400 Platforms*.

**Exhibit 6.03**  
**Designated Service Levels**

Upon sixty days after notification of an issue which places a service level outside the control of the vendor, if the issue is not corrected, the applicable service level credits will not be assessed. Examples include: not updating to newer versions of software that would be necessary to maintain service levels; not allowing the vendor to correct a known problem that is impacting a service level; impacts due to the implementation of new applications; hardware going out of support; or not upgrading or expanding hardware where performance has degraded due to increased workload.

**Designated Service Level Credits**

Vendor will not be penalized for System Availability interruptions to Commonwealth owned and supported networks and equipment, or application availability problems.

**Measurement Data and Software Tools:**

The following sources of data and software tools will be used to obtain SLA measurements:

| Platform              | Source of Data         | Software Tools  |
|-----------------------|------------------------|---|
| IBM MVS               | SMF, IMS LOGS          | IMSPARS, IMS Performance Analyzer, SLR                            |
| IBM VM, VM/VSE        | System Logs            | RTMESA, VMPRF, MacKinney Systems, Inc. CICS Response Time Monitor |
| IBM AS/400            | QHIST                  | PM/400  |
| Unisys 2200           | SIP, MLF               | Viewpoint, Torch  |
| Unisys A-Series       | System Logs, COMS Logs | Viewpoint   |
| Non-Mainframe Servers | HP OVOP Agent          | Hewlett Packard, OVOP Reporter                                    |
| VMware Servers        | ESX Operating System   | VMware Virtual Center Toolset                                     |

Problem Management data contained in Remedy will also be used as a source of data.

**Designated Services Level Categories:**

In the event of a Designated Services Level violation in a specific category for a Commonwealth Agency, a Designated Services Level credit will result for that Commonwealth Agency. Designated Services Level credits will be calculated by BIO-DPH. Vendor will be given the opportunity to agree or disagree with the fact that a Designated Service Level was violated and the data used to calculate the Designated Service Level credit. See *Designated Services Level Credits* for each Designated Services Level and *Calculation of Designated Services Level Credits* at the end of this section.

**Exhibit 6.03**  
**Designated Service Levels**

**Service Level Considerations for AS/400 Platform**

Of the Designated Services Levels in effect, Vendor will be obligated to meet a Designated Service Level for System Availability, Online Transaction Processing Availability, and for Production Batch if a pre-defined and regular batch schedule is in effect for that Commonwealth Agency. Vendor will not be bound to a Designated Services Level for Online Performance. Vendor will be responsible to meet with each Commonwealth AS/400 Agency at least once a month to provide detailed performance measurements on processor availability, CPU and DASD utilization, response time, and problem and change management results. Vendor will proactively work with BIO-DPH and Commonwealth Agency to achieve a level of service and performance that meets or exceeds their needs.

**Service Level Considerations for Non-Mainframe Systems**

Of the Designated Services Levels in effect, Vendor will be obligated to meet a Designated Service Level for System Availability and Online Transaction Processing Systems Availability, which for non-mainframe systems is really a Subsystem Availability. Designated Services Levels for Production Batch or Online Performance will be addressed on a case by case basis. Vendor will be responsible to meet with each Commonwealth Non-Mainframe Agency at least once a month to provide detailed performance measurements on processor availability, CPU and DASD utilization, and problem and change management results. Vendor will proactively work with BIO-DPH and Commonwealth Agency to achieve a level of service and performance that meets or exceeds their needs.

Non-mainframe systems include mid-range and lower end commodity servers, as well as high availability servers that exist within a configuration designed for redundancy. Service Level Agreements will apply to all production systems for all CoPA agencies and are based on architecture design and system configurations.

These Service Levels are for availability of computer hardware, operating systems and miscellaneous utility software from independent software vendors (ISVs). The data center facility, which is a key component of each system in the DPH, is High Availability.

Service Levels become effective on a date which is mutually agreed upon between the Commonwealth and the Vendor. This becomes the Production Date for the system. For the purpose of penalty calculations, the total number of days in the month a server goes into Production will be used. For example, if a server goes into production on October 15<sup>th</sup>, System Availability of 44,640 minutes will be used, along with the corresponding monthly minutes for all other factors.

Planned and mutually agreed to downtime does not count against the SLA. Customer requested downtime, such as re-boots or emergency changes do not impact the SLA. Metric reporting does not include partial months, so although the SLA will be tracked for penalty purposes from the Production Date, tracking for reporting purposes will not begin until the 1<sup>st</sup> of the month following the Production Date.

Servers that exist within a Load-Balanced configuration are considered stand alone servers.

**Exhibit 6.03  
Designated Service Levels**

**Designated Services Level Categories**

| <b>Designated Services Level Name</b>                 | <b>Penalty for Multiple Occurrences</b> | <b>Designated Services Level</b>                            |
|---|---|---|
| System Availability                                   | Yes<br>Within the Month                 | Pre-Transition Commonwealth Agency Designated Service Level |
| Online Transaction Processing Systems Availability    | Yes<br>Within the Month                 | Pre-Transition Commonwealth Agency Designated Service Level |
| Production Batch<br>(Optional for AS/400 platforms)   | Yes<br>Within the Month                 | Pre-Transition Commonwealth Agency Designated Service Level |
| Online Performance<br>(Excluded for AS/400 platforms) | Yes<br>Successive Months                | Pre-Transition Commonwealth Agency Designated Service Level |

DOS SURE Test Servers are exempt from System Availability Service Level application.

**Designated Services Level Targets to be Determined:**

For the Designated Services Levels listed in the *Designated Services Level Categories* table, Commonwealth Agency Baseline Data captured in Exhibits 6.03 SLA must be provided to Vendor prior to the 90 day Commonwealth Agency data collection period that precedes that Commonwealth Agency's transfer of operational and technical support responsibility to Vendor. The Commonwealth Agency Baseline Data is not meant to establish specific Service Levels, but will assist Vendor and Commonwealth in determining the actual Service Levels.

**Order of Precedence:**

The following is the order of precedence to be followed when determining Service Level credits for the following Designated Services Levels:

1. System Availability \*
2. Online Transaction Processing Systems Availability
3. Production Batch
4. Online Performance

If multiple Designated Services Levels are not met, the Designated Services Level credit will be calculated using the Designated Services Level that is highest in the order of precedence on a per-occurrence basis.

- Highest – supersedes all other Designated Services Levels

**Exhibit 6.03**  
**Designated Service Levels**

**Designated Services Level - System Availability**

**Objective:**

To ensure that Commonwealth Agency mainframe/mid-range processors are available for use by Commonwealth Agency customers.

**Definition:**

System Availability is defined as the mainframe/mid-range processor or non-mainframe system being available for use. This includes the Commonwealth Agency's ability to logon to the system, print mainframe/mid-range spooled output (excluding printing devices which are the responsibility of the Commonwealth Agency), execute jobs, access the network (excluding the retained Commonwealth Agency's hardware, software, MAN and Commonwealth Agency internal networks) and execute online transactions.

Monthly excusable downtime, expressed as a percentage, is defined as the difference between 100% availability (which excludes any scheduled downtime which can be different for each Commonwealth Agency) and the actual Commonwealth Agency system availability as determined during the 90 day pre-transition period.

Hours for System Availability will be defined as 24 hours times 7 days, minus any scheduled downtime (as shown in the example in Exhibit 6.03 SLA or as otherwise agreed by Vendor and BIO-DPH) with the result expressed as a percentage.

Each agency's typical window for scheduling routine system maintenance activities is identified in Exhibit 6.03 SLA. An agency has the right to exchange the scheduled outage window for a more suitable period of time via the change management system.

For each Commonwealth Agency the System Availability Service Level will be that Commonwealth Agency's System Availability, as measured during the 90-day pre-transition period. In the event, System Availability is measured as 99.90% to 100% for the 90-day pre-transition period, Vendor, Commonwealth Agency, and BIO-DPH will mutually agree on a system availability service level based on historical availability and scheduled maintenance windows.

For each Commonwealth Agency's Non-Mainframe Server, the System Availability Service Level will be based on the type of server and configuration as follows:

99.9% - High Availability (HA): Servers are redundant and include fail-over capability; in the event one server fails, another will automatically and immediately resume production.

99.8% - Non-HA Enterprise Class and Partitions: Stand alone servers and the partitions within them that are not redundant but are typically and historically highly reliable.

99.5%- Non-HA Commodity: Stand alone servers with limited configuration diversity, typically reliable but on a relatively low end architecture that is not as reliable as Enterprise Class servers.

**Exhibit 6.03**  
**Designated Service Levels**

**Method of Measurement:**

Detailed information on all system outages and downtime will be recorded by Vendor into the Problem Management System (unscheduled outages) or Change Management System (Vendor-requested scheduled outages) or similar system that is designed to measure system availability, track problems and/or changes and is accessible by Commonwealth and the Commonwealth Agency's help desk. This information will include:

1. Type of outage (Scheduled/Unscheduled)
2. Beginning and ending time of the outage
3. Duration of the outage
4. Events leading up to the outage
5. Reason (Scheduled) or Root Cause (Unscheduled) for the outage
6. Action taken to correct the problem if Unscheduled Outage
7. Action taken to prevent recurrence if Unscheduled Outage

**Environmental SLA** – SLA Target Availability will consist of Facility Availability and Network Core Availability.

Environmental Service Levels will be in effect following the establishment of the Agency's environment at the DPH. Unisys will be subject to penalties for SLA violations after a 30-day stabilization period.

An Environmental SLA will follow the same process for calculating the system availability SLA category. If either facility or network core availability drops below the SLA target availability during the month being measured, a system availability credit will be applied against the Agency's monthly charge. Per agreement between the Vendor and BIO-DPH for the agencies that have multiple system environments at the DPH, it will only be proportional to the system environment. The recoupment process for such an assessment is the same as is used for system availability.

This SLA involves the complete failure (i.e., an entire facility power failure, which includes the 6513 switches or both 6513 switches not working at the same time) of the above infrastructure component under vendor control and does not include partial failures (only a power failure for part of the facility, a single PDU, a single system, only one 6513 unavailable of the two, or individual agencies impacted – but not all) or events that have been or are beyond the reasonable control of the vendor. System and subsystem SLOs will be developed and monitored, however no other SLAs will be provided unless the agency requests the vendor reengineer the existing server environment (through a separate change order).

**Exhibit 6.03**  
**Designated Service Levels**

**Designated Services Level Category - Online Transaction Processing Systems Availability**

**Objective:**

To ensure that Commonwealth Agency online transaction processing systems are available for use during predetermined hours.

**Definition:**

Online Transaction Processing Systems availability is when the user is able to access production screens and databases that have been pre-identified for access during specific hours. These hours are based on unique agency requirements and criticality of service. Users will include Commonwealth Agency IT staff, Commonwealth Agency users, and external business partners. Hours for availability will be defined prior to transition. An example of how these will be documented can be found in Exhibit 6.03 SLA.

Online Availability encompasses the following components where applicable:

Online Transaction Processing Systems (IMS TM, CICS, TIP, MCB, MAPPER, QINTER, COMS) in use by the Commonwealth Agencies, Related/Supporting Peripherals (channel extenders, front-end processors, disk storage, tape storage), and Database Management Systems/Control Files/non-DBMS Files/Database Mainframe Software (DB2, IMS DB, CA-IDMS, CA-Datcomm/DB, UDS, DMS, DMSII, RDMS, DB2/400, ADABAS, Oracle, Sybase, ViaServe LDS, VSAM Files, Direct Access Files, Sequential Files, Indexed Sequential Files) in use by Commonwealth Agencies.

**Method of Measurement:**

Detailed information on all online activity will be captured by Vendor and recorded into the Problem Management system or other commercially available system designed to measure availability/track problems. Commonwealth will have read access to this data and the ability to extract information and report on online transaction processing system availability.

For Commonwealth Agencies that have critical availability requirements, Commonwealth may elect to use an availability monitor to monitor specific applications at specific locations. Commonwealth will not have the ability to issue any monitoring commands on a Commonwealth Agency's processing system.

**Exhibit 6.03**  
**Designated Service Levels**

**Designated Services Level Category – Production Batch**

**Objective:**

To ensure that production batch jobs are completed within each Commonwealth Agency's designated batch window or prior to the completion of the batch window if necessary to meet Commonwealth Agency business requirements.

**Definition:**

Production Batch is any scheduled job run under the control of JCL/ECL/WFL/CL that creates, deletes, reads or updates production files/databases or creates production output files such as print files.

**Method of Measurement:**

Analyze system logs and/or job scheduler historical data to determine Commonwealth Agency's current Designated Services Level for meeting production batch windows. Because Vendor is not responsible for Batch Production failures related to application or database problems that are out of scope, these will not be counted in the measurement. Failures related to operational or in-scope technical support activities will be counted.

For each Commonwealth Agency, production batch windows will be defined prior to transition. An example of how these will be documented can be found in Exhibit 6.03 SLA. Critical output files such as spooled output files, files to be transmitted, or media to be picked up that must be available to meet Commonwealth Agency business requirements prior to the normal completion time of that batch window will also be defined prior to transition. An example of how these will be documented can be found in Exhibit 6.03 SLA.

**Designated Service Level Credits:**

Batch Production Service Levels will be met for a day when all Batch Production cycles for that day are completed within the specified window (a variance of 5 minutes will be permitted), and, in addition, Commonwealth Agency's critical output is available for print, transmission, or pickup at the required time. To be considered on time, the following will apply:

- All production online files scheduled to be updated during the batch production window have been updated.
  - All production online files are available for online access by end users.
  - All batch jobs that create critical output (Ex. checks, titles, renewal applications, tapes or other media that will be picked up, files that will be transmitted over the network, etc.) that is time dependent or that requires special handling by Commonwealth Agency personnel and that must be completed prior to the end of the normal batch window have been successfully completed.
- All spooled output scheduled to be available for transmission and/or print by the end of the applicable batch production window is available for print. Vendor will be excused from missing a Batch Production Service Level to the extent that:

1. Batch jobs within a batch cycle are not identified, documented, and turned over to the Vendor such that monitoring of a job is beyond the Vendor's control to assure it is completed within the batch production window.

**Exhibit 6.03**  
**Designated Service Levels**

2. Commonwealth and Vendor agree that Vendor failed to meet the Designated Services Level due to causes beyond Vendor's control.
3. Commonwealth Agency requests Vendor delay the start time of a Batch Production Schedule and fails to alter the schedule in an effort to meet the processing window.

Production Batch is an incident based SLA. A single batch window or Critical Output incident constitutes a Service Level violation. Although multiple violations can occur, Vendor is held accountable for only a single violation per Agency per day. To recoup a batch Service Level violation, the Vendor must have zero batch violations for the next three months following the violation.

**Exhibit 6.03**  
**Designated Service Levels**

**Designated Services Level Category - Online Performance**

**Objective:**

To ensure that online transaction response times meet or exceed levels of service that were in existence prior to Commonwealth Agency's transition of workload to Vendor.

**Definition:**

Online Response Time is the elapsed internal response time to process an online transaction using Commonwealth Agency's specific online transaction processing systems (CICS, IMS, MAPPER, TIP, HVTIP, QINTER, COMS are examples of online transaction processing systems). IRT (Internal Response Time) is the elapsed time to process a measured Commonwealth Agency transaction internal to a specific host computer. It starts at the time the transaction is put in the host Commonwealth Agency input queue and ends at the time the transaction is put in the host Commonwealth Agency output queue. Online Response Time is internal host response time **only** and does not include network response time to the end user. Host to host communication is not included in Internal Response Time.

**Method of Measurement:**

Analyze baseline performance data from each Commonwealth Agency and establish transaction Internal Response Time averages using data and tools specified in *Measurement Data and Software Tools*. Each Commonwealth Agency will have a transaction profile established that identifies from 1 - 10 representative online transactions. Representative transactions may be transactions that are high volume, business critical, or have unique processing characteristics. These requirements will be defined prior to transition.

An example of how these will be documented can be found in Exhibit 6.03 SLA.

**Designated Services Level Credits:**

Vendor will be granted a 10% variance on all Commonwealth Agency internal transaction response times before the Service Level shall have been breached.

For example, if a Commonwealth Agency reports a .8 second internal response time, Vendor is allowed  $.8 + 10\%$ , or .88 seconds, internal response time to satisfy the applicable Online Performance Service Level.

**Calculation of Designated Service Level Credits**

The formulas that are to be used to calculate Service Level Credits are documented in the following Excel Spreadsheets:

1. System Availability Credits
2. Online Transaction Processing System Credits
3. Production Batch Credits
4. Online Performance Credits

**Exhibit 6.03  
Designated Service Levels**

○ Calculation of Designated Services Level Credits for agencies processing on multiple machines:

One of the factors used to calculate Service Level Credits is the Agency's monthly bill. For agencies whose bill includes a combined amount for processing on more than one physical machine, BIO-DPH and the Vendor will agree on an equitable split based on criticality of the work being processed on that machine or the cost of the machines. The chart below includes agencies that run on multiple machines and the percentage of the monthly bill allocated to each:

| Agency                  | Processor                   | % of Monthly Bill | Processor                             | % of Monthly Bill | Processor                       | % of Monthly Bill | Comments:  |
|-------------------------|-----------------------------|-------------------|---------------------------------------|-------------------|---------------------------------|-------------------|--|
| Dept. of Public Welfare | System -A                   | 30%               | System -C                             | 16%               | PACSES – System-F               | 30%               |  |
| Dept. of Public Welfare | Each ES7000 (total 11)      | 1.73%             | Each Commodity Server (total 18)      | .28%              |                                 |                   | ES7000 Servers in total represent 19% of the monthly invoice allocation, Commodity Servers in total represent 5%. As the number of servers change, the per server % will change. |
| Dept. of State          | SURE Production Environ.    | 70%               | License 2000 (L2K) Environ.           | 30%               |                                 |                   |  |
| PA State Police         | PSP-A                       | 72%               | Each PSP-B Commodity Server (total 2) | 1%                | Each PSP-PATCH ES7000 (total 2) | 4%                |  |
| PA State Police         | Each CCHRI ES7000 (total 4) | 4%                | Each CCHRI Commodity Server (total 2) | 1%                |                                 |                   | CCHRI in total represents 18% of the monthly invoice allocation, ES7000 Servers at 16% and Commodity Servers at 2%. As the number of servers change, the per server % will       |

**Exhibit 6.03**  
**Designated Service Levels**

|       |                        |     |                             |    |  |  |         |
|-------|------------------------|-----|-----------------------------|----|--|--|---------|
|       |                        |     |                             |    |  |  | change. |
| PSERS | PSERS NX<br>Production | 95% | PSERS<br>Environ-<br>mental | 5% |  |  |         |