

ENTERPRISE TECHNOLOGY SERVICES

RATE METHODOLOGY 2015-2017

503-373-1000

ETS.info@state.or.us

<http://www.oregon.gov/DAS/ETS>

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DAS
DEPARTMENT OF
ADMINISTRATIVE
SERVICES

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OVERVIEW

METHODOLOGY SUMMARY

Objectives

Enterprise Technology Services (ETS) uses a rate development process that enables successive refinement of budget planning and rate development. The methodology relies on a cost allocation process that determines what it actually costs to provide a unit of service. Cost allocation incorporates all fixed and variable costs to determine the total cost of providing a service. Rates are then calculated to recover actual costs for each service offering based on the following objectives:

1. Rates represent the true cost of delivering a service.
2. Each service line is run as a “business within a business”.
3. Federal A-87 compliant.
4. Forecasting based on historical billing and trending data.
5. Transparent rates scrutinized internally and externally.

Value

The primary value of cost allocation is for internal purposes to determine business costs and the allocation of these costs to services provided. Costs are initially assigned to business sections then the costs are reallocated through internal sales, reflecting that some ETS sections provide services internally to other ETS sections.

This accounting method also provides for opportunity cost analysis and enables comparison information for decision making when choosing among several closely related options for providing service.

Another major value is that the process provides a vehicle for transparency to the enterprise in how rates are established and what impacts rates.

BACKGROUND

In the 2005-2007 biennium, at the inception of the State Data Center (SDC), SDC operations were primarily financed by assessments from the original 11 participating agencies based on those agencies IT budgets. Some additional revenues were rate-generated as SDC absorbed functions that had been part of the Department of Administrative Services (DAS) Information Resources Management Division (IRMD), primarily the General Government Data Center and the Data and Video Services.

By the 2007-2009 biennium SDC revenues were rate-based. As the SDC rate model was in its infancy early rates were designed to cover SDC costs, and adjustments were made as necessary to ensure revenue was adequate to cover expenses. In addition state voice services, a rate-based service, was transferred to the SDC. This model continued through the 2009-2011 biennium as SDC continued to refine its rate setting methodology.

In the 2011-2013 biennium two major changes affected the SDC rate methodology:

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1. SDC adopted a full-cost allocation methodology that would allow better differentiation of costs to services which produced more accurate service-specific rates for the 2013-2015 biennium.
2. Organizational changes created ETS, comprised of the SDC and DAS functional units that had been part of other DAS divisions. These functional units of E-Government, Application Delivery Services and the Technology Support Center brought services to the new organization that were a combination of funding methods including embedded employees, assessment, and fee-for-service and self-funding.

For the 2013-2015 biennium, the decision was made to continue the funding models that came to ETS through the reorganization. With the onset of the 2015-2017 biennium, ETS revenues are fee-for-service plus pass-through generated and assessment. The expectation is that the model will continue to be adjusted as costs and services change throughout the upcoming biennia.

METHODOLOGY CHANGE HIGHLIGHTS

1. Some costs and services changed from Assessment to Rate and some costs and services changed from Rate to Assessment.¹
2. Windows and Linux server rates, such as virtual and remote have been blended to a single server rate.
3. Storage Tiers 1-3 rates have been blended into a single Enterprise Storage rate.
4. Mainframe Batch and TSO have same rate. (Both are utilities of mainframe operating system).
5. Midrange simplified unit calculation to Resource Unit, Instance Unit or MB Transferred.
6. Wireless LAN Extensions (WLAN) moved from WAN to LAN service.

¹ For list of services changed see Appendix A

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RATE DEVELOPMENT PROCESS

DEVELOPMENT PRINCIPLES

1. The methodology uses cost and usage forecasts to determine rates. Forecasts rely heavily on historical trends that may be offset by other information not reflected in history.
2. Rates are identified in terms of billable units. The billable unit is the metric used to measure how the service is consumed and varies with the service provided. The explanation of the methodology in the “Service Line Methodologies” section of this document describes the reason for the metric used for that service.
3. Rates are based on a per unit cost, with a fundamental equation of:

$$\text{Rate per Billable Unit} = \frac{\text{Total Cost of Service}}{\text{Number of Forecast Billable Units}}$$

DEVELOPMENT ASSUMPTIONS

Depreciation

Per Federal A-87 Guidelines, depreciation on current assets is built into rates in addition to estimated depreciation for forecasted capital purchases.

Maintenance

Five (5) percent annual increase is used for maintenance renewals cost projections.

Personal Services

Personal services projections are based on DAS guidelines for forecasting personnel costs.

Working Capital

Thirty (30) days working capital has been built into service rates and assessment.

Policy Option Packages

Policy Option Packages (POP) submitted by ETS is incorporated in the preliminary rates plus pass-through, except for the ETS companion POP for agency projects. This allows the impact of the POP to be included in the preliminary DAS price list for each state agency to use in preparing their preliminary budgets.

If a POP is denied or withdrawn, rates will be adjusted.

POP submitted for the 2015-2017 biennium that has a potential impact on ETS rates:

POP #112: Security and IT Operations Audit Support: Establish sufficient funding to implement industry best practices recommended by audit findings. Both ETS and agencies have been audited by the Secretary of State and by Federal agencies. These audits have identified issues and mitigation strategies. In some cases findings have been identified in multiple audit reports. Addressing these issues will increase the efficiency, effectiveness and functionality required by

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state agencies and local government including hardware, software, maintenance and support services that ETS uses to provide networking, storage and computing services.

ETS is responsible for the management of over 2300 UNIX, Windows and Linux servers, a mainframe computer which is larger than that used by the New York Stock Exchange, over 3600 networking devices and firewalls, and enough data storage capacity for 700 copies of the Library of Congress. These devices are not only located in the ETS facility but at over 600 statewide agency locations. In addition, ETS is responsible for the software that runs agency applications on each of these computing platforms.

Both the Secretary of State and independent auditors have made recommendations related to best practices in order to ensure the confidentiality, integrity and availability of the systems necessary to support agency core business functions. These include personnel and better tools to monitor the transactions occurring on the state's systems, to help ensure agency data remains safe, tracking access to state systems is only by authorized personnel, and changes to state systems are logged and approved. Several of these functions are being fulfilled today by temporary or limited duration staff and this work will need to continue to be performed into the future. Due to the complexity of this work, the most highly skilled IT positions are required.

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Forecasted Growth Assumptions²

Computing Services

Distributed Windows and Linux

Forecasting Method: Forecasted units were based on July 2013 actual usage.

Growth Assumptions: 5% growth on CPU, RAM and Server Instances. Movement is expected between types of environments, but overall growth is expected to be conservative.

Source: July 2013 customer usage - O/S, CPU, Memory, and Clustering.

Source: July 2013 ETS Asset Management records - Appliances

Mainframe

Forecasting Method: The starting unit for each customer was based on the July and August 2012 and 2013 average.

Growth Assumptions:

- Batch: July and August 2012 and 2013 – 24% Growth
- TSO: July and August 2012 and 2013 – 14% Growth
- CICS: July and August 2012 and 2013 – 0% Growth
- DB2: July 2013 Actual - 24% Growth

Source: July and August 2012 and July and August 2013 customer usage.

Midrange

Forecasting Method: The starting unit for each customer in iSeries and UNIX was based on July 2013 actual usage.

Growth Assumptions: 0% growth

Source: July 2013 customer usage.

Midrange Middleware

Forecasting Method: Forecasted units were derived from the past performance using utilization numbers from July 2013.

Growth Assumptions: 0% growth

Source: July 2013 customer usage.

² Internal Use: File directory – Appendix B

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Data Storage Services

Storage

Forecasting Method: Storage forecasts used a starting point of July 2012 actual usage with forecasted growth through 2015-2017.

Growth Assumptions: Enterprise storage used a weighted growth trend for 2012-2013 (FY12) for Tiers 1, 2, and 3 (not including direct attached storage):

	FY 12 Units	% of Total	FY12 Growth	Weighted Avg.
Tier 1	408,320.4	5%	26%	1%
Tier 2	5,633,745	69%	10%	7%
Tier 3	2,162,738	26%	10%	3%
Total	8,204,803	100%	45%	11%
	Annual Growth	0.2156 Or 43.12% for Biennium		

Backup

Forecasting Method: July 2012 through June 2013 we used storage and billing reports to trend and forecast number of units.

Growth Assumptions:

Mainframe and Backup used FY12 growth rate:	
Mainframe	44.09%
Backup	44.5%
Direct Attached (Local)	0%

Source: July 2012 through June 2013 customer usage.

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Network Services

State Network Access

Forecasting Method: July 2013 Customer usage multiplied by 24 months.

Growth Assumptions: 0% growth. Past trends were relatively static.

Source: July 2013 customer usage.

Local Area Network/Wide Area Network

Forecasting Method: July 2013 Customer usage multiplied by 24 months.

Growth Assumptions: 0% growth.

Source: July 2013 customer usage.

E-Government Services

E-Government Website Contract Management

Forecasting Method: Website site accounts forecasted actual usage as of August 2013.

Growth Assumptions: 0% growth forecasted for E-Gov.

Source: August 2013 Google Analytics and file count reports.

E-Government E-commerce Contract Management

Forecasting Method: Website page and file counts and E-Commerce transactions, actual usage measured from July 2012 through June 2013.

Growth Assumptions: 0% growth forecasted for E-Gov.

Source: July 2012 through June 2013 Google Analytics, <http://www.google.com/analytics/Monthly E-Commerce Summary>, E-Gov Operations Space.

E-Government Hosted Applications Contract Management

Forecasting Method: Hosted E-Gov Applications, internet sites and email accounts forecasted actual usage from August 1, through August 31, 2013.

Growth Assumptions: 0% growth forecasted for E-Gov.

Source: August 2013 ETS E-Government Service Portfolio, <https://data.oregon.gov/Administrative/ETS-E-Government-Service-Portfolio/9g5a-r9zs>

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E-Government Intranet

Forecasting Method: Intranet site accounts forecasted usage from August 1, through August 31, 2013.

Growth Assumptions: 0% growth forecasted for E-Gov.

Source: August 2013 ETS E-Government Service Portfolio,
<https://data.oregon.gov/Administrative/ETS-E-Government-Service-Portfolio/9g5a-r9zs>

E-Government Intranet Contract Management

Forecasting Method: Intranet site accounts forecasted usage from August 1, through August 31, 2013.

Growth Assumptions: 0% growth forecasted for E-Gov.

Source: August 2013 SilverSky Service Summary, SilverSky Operations Space

LAN/Workstation

Enterprise Email

Forecasting Method: State.or.us email address for each mailbox account as of July 2013

Growth Assumptions: Used 10% growth rate based on the State Office of the Chief Operating Officer and Enterprise Leadership Team decision to consolidate email systems.

Source: July 2013 state email accounts.

Workstations

Forecasting Method: Forecasted units based on DAS active directory accounts as of August 2013

Growth Assumptions: No Growth

Source: August 2013 active directory accounts.

Voice Services

Phone

Forecasting Method: September 2013 Customer usage multiplied by 24 months.

Growth Assumptions: 0% growth. Past trends were relatively static.

Source: September 2013 customer usage.

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Other

Pass-Through

Forecasting Method: July 2011-2013 actual pass-through billed to customers plus 5% annual growth.

Growth Assumptions:

- Disaster Recovery - TBD
- Software Pass-Through 5% annual growth
- Voice and Network 0% growth

Source: July 2011 through June 2013 customer pass-through.

Billable Hours

Forecasting Method: July 2013 through September 2013 customer billed labor charges were used as a base for determining total number of billable hours.

Growth Assumptions: None

Source: July 2013 through September 2013 customer labor charges.

Staffing

Staff time:

The following assumptions for staff time were used:

Work hours per biennium	4160	40 hour x 52 week x 2 years
Less governor's day	-16	1 day per year x 2 years
Less personal days	-48	3 days per year x 2 years
Less holidays	-144	9 days per year x 2 years
Less vacation	-240	10 hours per month x 2 years after 5 years employment
Less training time	-40	minimum per DAS policy
Biennial hours at work	3672	153 hours x 12 mos. x 2 years
Estimated # of days	459	3672 hours/8 hours/day
Less paid break time	-229.5	.5 hours/day x 459 days
Biennial hours available for work	3442.5	3672 Biennial hours at work (-) minus 229.5

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RATES AND RATE BUILDING

TYPES OF REVENUE RECOVERY

Four basic recovery types are used:

1. Service Rate
2. Assessment
3. Hourly Rate
4. Pass-Through
 - a. Five (5) percent Administrative Fee on Network Pass-Through

RATE UNIT MEASUREMENTS

ETS rates are applied in seven different ways, depending on the service provided:

1. Standard monthly rate per unit: Representing a unit of service that the customer has requested. These rates represent services such as a server instance, or allocated storage and generally remain static unless the customer requests a change.
2. Volume usage per month: Representing services that are based on a variable volume of usage, and the usage is measured at a given point of time in the month. These rates typically apply to services such as storage or backup.
3. Cumulative usage: Representing services that are based on actual usage throughout a month. These rates are typically system usage such as a CPU (Central Processing Unit) minute.
4. One-Time: Representing services that by nature are only provided one time. A set-up rate is a common example of this type of rate.
5. Day or Half-day³: Representing a service that is only provided in a given time frame. This type of rate is only applied for the computer lab or for use of the recovery test environment.
6. Hourly: Representing the use of IT professional services and applied at an hourly rate of staff time used. See Hourly Rates section for more information.
7. Pass-Through: Representing services that the cost to ETS is passed directly through to the customer. See the Pass-Through section for more information.

³ Half-day equals four hours or less

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SERVICE RATES: COMPONENTS AND METHODOLOGY

Service rates are a fixed charge per unit of quantity. These rates are applied to ETS services which are billable. Each service offering has a unique unit and rate (cost per unit).

ETS uses a service build-up cost model to calculate its rates. The cost of each service provided to the State includes the costs of component services required to deliver it.

There are three basic components to a service rate:

1. Internal Costs
2. External Costs
3. Compensation Costs

Internal Costs

Internal costs are costs generated by one ETS service to support another ETS service. These costs are generally staff hours or use of products or services. A prime example of this type of cost is Server services include storage for the server's operating systems. Similarly all infrastructure service rates include the costs of help-desk support of those services.

Some internal costs are applied only to a specific project. Some internal costs are applied only to a specific ETS service line. They may be apportioned into all the services of the service line, or just to a specific service offering. Some apply to all service offerings in all ETS service lines. These are termed "overhead".

External Costs

External costs are those costs paid to vendors or other State charges. Examples include professional services, facilities, utilities, telecom, supplies, training, travel, licensing, maintenance, depreciation and interest on capital-owned assets.

Some external costs are applied to a single project (direct costs). Most are indirect and apportioned over multiple (or all) projects/services within an ETS service line.

Indirect costs are those which are apportioned to multiple services. All indirect costs (Internal and External) are apportioned onto projects/services in proportion to the direct costs of each receiving service.

Compensation Costs

The cost of ETS staff hours are built into the service rates.

First, 'unbillable time' for necessary sustenance activities (such as holidays, personal leave, training and process improvements) is set aside. The amount is decided for in each ETS service line.

The total compensation cost within a service line is divided by the remaining "billable" hours to calculate a compensation cost per billable hour. This represents a blended average of the various employees and any staff augmentation contractors in that group, so that all customers are treated equitably (i.e., no one pays more for the same service just because ETS chose to fulfill it with contractors).

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Billable hours (and hence compensation costs) are assigned to the services.

Hours may be estimated for a specific project.

Alternatively, for many services, the total hours required to manage and deliver the service are apportioned to all the customers of the service based on forecasted units (volume) consumed by each customer. Hours are applied to services using one of the following methods:

1. Hours per unit
2. Total hours spread across all forecasted units
3. Percent of total hours by headcount

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ASSESSMENT: COMPONENTS AND METHODOLOGY

The intent of the assessment is to fund the fixed costs related to operating and maintaining the State's core infrastructure and enterprise services.

The spread of the assessment was calculated as follows:

1. If an agency has 2 or less FTE, then a flat amount of \$2,500 will be assessed for the biennium.
2. If an agency has 2.1 to 30 FTE and a budget of \$10 million or less, then they will be assessed \$4,000 for the biennium.
3. The remainder of the needed assessment is split 50/50 between percent of FTE and percent of 2013 budget for all other agencies. The budget is based on lottery, other and federal funds.

Fixed costs included in assessment:

1. Network Core Infrastructure comprised of the State Network Access (SNAC) costs.
2. ETS Administrative Overhead.
 - a. Administrative duties including receivable and payable services, reception, and personnel.
 - b. Policy, process, standards, and procedures coordination and facilitation, including ITIL (Information Technology Infrastructure Library) service management processes:
 - i. Asset management
 - ii. Business relationship management
 - iii. Business and strategy management, including development, planning, process architecture and engineering, strategic and business improvement coordination, management of efficiency efforts such as consolidations
 - iv. Capacity management
 - v. Change management
 - vi. Configuration management
 - vii. Financial management to offer accounting oversight and internal financial reporting, including budget projections and coordination
 - viii. Incident and problem management
 - ix. Procurement and contract management, including negotiation and facilitation
 - x. Service continuity management
 - xi. Service level management
 - xii. Service portfolio and catalog management
 - xiii. Supplier management
 - c. Security
 - i. Standards and oversight

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- ii. Hardware and Software
- d. Staff supervision
- e. Warehousing
- f. DAS operating transfers charged to ETS are allocated to service line based on an analysis of percent of services consumed by each area.
- g. ETS floor space is applied based on the area designated for computing use.
 - i. The computing area consists of the raised floor (15,691 sq. ft.)⁴, and infrastructure areas (10,635 sq. ft.). These areas are allocated to the service areas and a rate applied.
 - ii. The State Data Center (SDC) is a self-supported building and all facilities-related expenses (repairs, maintenance, yard service, etc.) are paid solely by ETS.
 - iii. Calculations for the raised floor and infrastructure area are based on the following square footage occupied by specific domains:

Service Line	Occupied Raised Floor and Warehouse Space Footprint (square feet)	Percentage
Distributed	3,881	35.63%
Mainframe	120	1.10%
Midrange	348	3.19%
Network	1,016	9.33%
Storage	4,024	36.94%
Voice	1,296	11.90%
OHA/MMIS ⁵	208	1.91%
Total	10,893	100%

⁴ The raised floor space of 15,691 includes the occupied areas by service area infrastructure and common areas within the raised floor area, such as aisles.

⁵ OHA/MMIS will be billed for floor space occupied at the colocation rate.

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HOURLY RATES

Hourly rates are applied to IT professional services of staff time for specific requests by customers that are beyond the service expectations incorporated in the rate for that service. The normal service expectation may vary depending on the service. For example:

1. Repairing or troubleshooting disruption of services is part of the normal service expectation incorporated in the rate for services and no hourly rate would apply.
2. A change in an existing service requested by a customer is not incorporated in the rate for that service and an hourly rate would apply.

IT professional services hourly rates were derived by estimating the personal service and overhead costs for staff providing the services. As personal service costs vary within each ETS unit, the rates were blended to establish an average cost within that unit.

1. All hourly rates are billed at one of the following rates depending on the work performed:
 - a. Base/Generalist
 - b. Application Service and TSC
 - c. Specialized
2. Standard expenses incorporated in hourly rates are:
 - a. Personal services/compensation
 - b. Internal overhead
 - c. Office expenses
 - d. Rent
 - e. State Government Service Charges
 - f. Travel
 - g. Training
 - h. Utilities

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Base/Generalist

Base/Generalist hourly* rates are applied for the following activities:

1. Production Services: Provides a variety of customer support services including batch scheduling, operator support services and job processing.
 - a. Create or modify and simulate production batch job schedules, priorities and definitions; Date drivers setup, modification and simulation; JCL (Job Control Language) edits and modifications; and assist with major implementations.
 - b. Assist with server reboots per customer request.
 - c. Tape mounts, telnet updates and additions, and data uploads/downloads.
 - d. Submit and monitor batch jobs on demand, agency batch processing, execute and monitor scheduled jobs, includes taking client defined actions upon failure/completion.
 - e. Move; compile agency batch program components and documentation from test to production environments.
 - f. After hours and weekends service desk assistance including AD domain and mainframe password resets.
 - g. RACF and Datamart user id resets and resumes.
 - h. Mobius output archiving application ad-hoc work, maintenance of report definitions, updating of groups, branch information, rescan of reports.
 - i. Open or close/Enable or Disable CICS region files and transactions as requested.

*Hours for the 2015-2017 biennium will be billed at a fixed amount per month based on biennial forecasted usage for each customer.

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Application Service and TSC

These hourly rates are applied for the following activities:

1. Application Delivery: Provides application customization of purchased applications for DAS divisions.⁶
 - a. Resolve production application outages.
 - b. Remediate applications to comply with Federal and State mandates (e.g. tax law changes and collective bargaining agreements).
 - c. Provide basic maintenance such as adding new fields to screens and reports, performance monitoring and application security administration.
 - d. Support ETS internal applications such as GLPI, RT, PT, S3, and LDAP.
 - e. Support CenDir application upgrades, enhancements, rewrites of existing application and testing.
 - f. Support non-ETS application upgrades, enhancements, rewrites of existing applications and testing.
 - g. Support SharePoint (DASH) application upgrades, enhancements, rewrites of existing applications and testing.
2. TSC Helpdesk DAS Applications User Support. TSC provides a variety of application support services.
 - a. Desktop support (PC, laptop, Mac, etc.).
 - b. Standard and non-standard application support and troubleshooting.
 - c. Remote desktop access.
 - d. Network access and security.
 - e. Computer Lab special installs.

⁶ DAS Client Agency requests reviewed on a case by case basis.

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Specialized

Specialized hourly rates are applied for the following activities:

- a. Mainframe User Support: Provides support of user application interfaces to other subsystems within and outside of the mainframe.
 - a. DB2 to CICS applications, batch applications, Websphere applications, and distributed applications (such as Cold Fusion and others).
 - b. CICS to batch applications, DB2 services, Web Interfaces, and applications in other CICS regions/applications on other systems.
 - c. Batch processing, diagnostics, connecting to other systems (FTP for example).
 - d. Terminal/Printer connections to applications within the mainframe.
 - e. Disk and tape resource usage required by applications.
- b. Middleware User Support: Provides support of user application interfaces to other subsystems.
 - a. Staff time to assist with customer application issues.
 - b. Assistance with SQL servers and Web servers
3. Modification of Services: Modifies a service from the standard service offering.
 - a. Add storage
 - b. Increase bandwidth
 - c. Add processor or memory
 - d. Modify firewall rules
 - e. Customer application integration
 - f. Enhance customer application
- c. Project Management: Provides the following process groups using Project Management Body of Knowledge (PMBOK) for consistency with other management standards:
 - a. Initiating
 - b. Planning
 - c. Executing
 - d. Controlling
 - e. Closing
- d. Specialized Consulting: Provides customized solutions to meet customer's requirements and to document customer supplied questions.
 - a. Firewall configuration advice or design work.
 - b. Capacity studies.

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- c. Performance assessments such as voice and existing applications.
 - d. White papers.
 - e. Disaster recovery plans.
 - f. Security analysis studies.
 - g. Audit responses.
 - h. High-level designs for customer decision making.
 - i. Hardware/software installation including documentation and brokerage of lifecycle services for new solutions, parallel environments (development, test, etc.), enhancements, and perfective/adaptive maintenance.
 - j. Specialized solutions such as providing a documented solution for enhanced FTI data storage.
- e. Set-up: Applies to the initial purchase or new occurrence of an existing service offering such as deployment of a router to a remote site, standard configuration of an LPAR or a new server, or VPN configuration.
- a. Requirements gathering
 - b. Design
 - c. Configuration
 - d. Coordination
 - e. Deployment
 - f. Testing/Verification
 - g. Establish customized monitoring or performance procedures to meet customer requirements.

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PASS-THROUGH COSTS

Pass-Through* is a charge that is incurred by ETS then passed directly to the customer on a dollar-for-dollar basis. Pass-Through costs are not included in service rates.

1. Network Pass-Through: Network connectivity charges, includes transport costs, taxes, interlata charges, installation and domain registrations. These are charged by the telecommunications vendors and passed on to the customer.
2. Voice Pass-Through Charges: This rate is passed through dollar-for-dollar by the vendor on services ordered by the agency. Expenses include long distance, calling cards, TSOs, 800 numbers, repair tickets, and directory listings.
3. Software Pass-Through: ETS Software Pass-Through is a charge incurred by ETS then passed directly to a customer on a dollar for dollar basis for SSL's (Licenses), server software, scanning software, Windows, iSeries, Linux, database, and other Enterprise software purchased by ETS for the benefit of the customer.
4. A five (5) percent charge is added to Network Pass-Through to cover the management of service contracts, attorney general fees associated with these contracts, and personal services to provision the services. An administrative charge for other types of pass-through is under consideration.

*Some Vendor Managed Services are also Pass-Through i.e. Atmosera (EasyStreet), SunGard

VENDOR MANAGED SERVICES

ETS may utilize vendor managed services in order to fulfill service requests beyond our current service offerings (non-standard services) or as a resource management option to fill standard service requests for hosting, storage, network and security. The rates charged to our customers will depend on whether the service requested is an ETS standard service offering or a non-standard service offering.

1. Standard service offerings will be charged to the customer at the current ETS rate incorporating all components of the service, including computing, storage, network, security, and billable hours. Billable hours will be based on the Service Solutions chart that estimate the number of hours required to build out a simple, moderate, or complex environment.
2. Non-standard service offerings for services outside the scope of the current ETS service catalog will be billed on a pass-through basis.
3. Exceptions to #1 and #2 above require review by the ETS Technology Architecture Team and ETS Finance for approval.

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SERVICE LINE METHODOLOGIES

MANAGED COMPUTING SERVICES

Colocation (Not a current external service offering, See appendix C)

1. Description

Data Center Floor Space / Square Foot, Data Center: This service provides data center floor space for location of computing equipment. The standard unit for this service is square foot in a conventional data center. The service includes HVAC, fire detection and prevention, uninterruptable power supplies, emergency generators, secure facilities, and 24X7 remote surveillance and environmental monitoring. This service includes the immediate escalation of incidents related to the physical asset in accordance with procedures provided by the customer. It does not provide monitoring of the operation of the software running on the co-located equipment. Customer must purchase network port(s) as needed.

2. Assumptions

- a. Colocation services are provided per square footage of floor space; and per rack.
- b. Floor space is based on two foot x two foot grid units (four square feet).

3. Billable Units

All units are either a per-month charge or a one-time fee depending on the catalog item.

Catalog item	Unit	How Unit Calculated
Data Center Floor Space, SDC Oregon	Four Square Feet	Rates are calculated by determining all costs related to data center operation such as rent, power and maintenance. Not a current service offering, See appendix C
Data Center Floor Space, Montana	Square Foot	Rates are calculated by determining square foot designated to ETS. Internal facing service only.

4. Changes from 2013-2015 Methodology

Change	Reason for Change
Floor space moved from administrative overhead to Assessment ⁷	Budget Adjustment

⁷ Assessment does not include MMIS

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Hosting: Mainframe

1. Description

The mainframe system collects computer processing data each time a user logs in to the computer, executes a job, runs reports, or does queries with online files. Usage information is assigned to customers based on where the usage information resides, application name, or user name. The unit of measure for mainframe computing is the Computer Processing Unit (CPU) minute with usage data reported daily.

Mainframe:

- a. Batch Processing
- b. CICS Processing
- c. DB2 Processing
- d. TSO Processing
- e. Disaster Recovery Test Environment

Internal only sales

- a. Mainframe Hardware: Cost pooled across all externally sold customer units

2. Assumptions

- a. Mainframe rates include staffing, overhead, network costs, and storage costs.
- b. Cost pools were used to allocate specific costs to appropriate services.
- c. There are multiple categories of CPU minutes that represent different workloads on the mainframe. The multiple categories were created to allow for more accurate spreading of costs and to ensure that customers using specific features were bearing those costs.
- d. Mainframe software that was part of the initial migration to ETS is considered part of the mainframe rates and not passed through. Maintenance, support or upgrade costs for these software licenses are considered part of the mainframe rates. In cases where customer-purchased software can be identified to specific customers or if two or less customers are using specific software those maintenance, support or upgrade costs may be passed through to agencies using that software and the associated costs will be excluded from rates.
- e. New software licenses purchased on behalf of one or more specific user agencies are considered pass-through expenses to the customer(s). If all mainframe user agencies can access the new software licenses, then the purchase becomes part of the mainframe rates.

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3. Billable Units

All units are either per month charge or a one-time fee depending on the catalog item.

Catalog item	Unit	How unit Calculated
Batch Processing	CPU minute	CPU minutes per month
CICS Processing	CPU minute	CPU minutes per month
DB2 Processing	CPU minute	CPU minutes per month
TSO Processing	CPU minute	CPU minutes per month
Disaster Recovery Test Environment	Per day	Per day. Minimum three days

4. Changes from 2013-2015 Methodology

Change	Reason for Change
Blended Batch and TSO rate.	Both are utilities of mainframe operating system.

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Hosting: Midrange

1. Description

Midrange Systems are systems that run in the UNIX (“AIX”) or IBM System (“iSeries”) environment. Rates in Midrange Systems include those for hosted computing as well as for specific services including managed database environments, web application servers, and SFTP services. These systems support many critical applications, such as Revenue, OYA and other high up-time applications.

Midrange:

- a. System Utilization, iSeries
- b. System Utilization, UNIX
- c. Virtual Operating System Services, iSeries
- d. Virtual Operating System Services, UNIX

2. Assumptions

- a. The cost for the computing environment that supports the service is calculated using the methodology for UNIX Instance and UNIX Resource.
- b. A number of units of the service equivalent to the UNIX Resources are assigned to the service.
- c. Customers are charged for the percentage of the environment that they used in a month based on measured utilization.

3. Billable Units

All units are either per month charge or a one-time fee depending on the catalog item.

<i>Catalog item</i>	<i>Unit</i>	<i>How unit Calculated</i>
System Utilization iSeries	Resource Unit	Resource unit per month
System Utilization UNIX	Resource Unit	Resource unit per month. CPU and RAM per month. One resource unit is 0.1 CPU or 4 GB of RAM. These can be charged in fractional units. 2 GB of RAM is ½ unit e.g. .1 CPU + 4 GB RAM = 2 units
Virtual OS Services iSeries	Instance	Per server instance per month
Virtual OS Services UNIX	Instance	Per server instance per month

4. Changes from 2013-2015 Methodology

<i>Change</i>	<i>Reason for Change</i>
Unix and iSeries Resource unit calculation	Simplified combination of CPU and RAM.

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Hosting: Middleware⁸

1. Description

Middleware supports and simplifies complex distributed applications. It includes web servers, application servers, messaging and similar tools that support application development and delivery. Middleware sits "in the middle" between application software that may be working on different operating systems.

Middleware:

- a. Application Server Service, WebLogic, Oracle on UNIX, rate includes CPU & RAM
- b. Application Server Service, Web Sphere or Cold Fusion on UNIX, rate includes CPU & RAM
- c. DBMS Service, DB2 on UNIX
- d. DBMS Service, Oracle on UNIX
- e. Secure File Transfer Service, UNIX
- f. Mail Hub Service⁹

2. Assumptions

- a. There may be additional services that are included in Middleware in 15/17.
- b. A number of units of the service equivalent to the UNIX Resources are assigned to the service.

3. Billable Units

Catalog item	Unit	How unit Calculated
Application Server Service, WebLogic on UNIX	MB	MB application data transferred per month/.1 CPU + 4 GB RAM = 2 units
Application Server Service, WebSphere, ColdFusion on UNIX	MB	MB application data transferred per month/.1 CPU + 4 GB RAM = 2 units
DBMS Service, Oracle on UNIX	Resource	Resource unit per month (CPU, RAM, OS)
DBMS Service, DB2 on UNIX	Resource	Resource unit per month (CPU, RAM, OS)
Secure File Transfer on UNIX	GB	GB of UNIX SFT data allocated per month
Mail Hub Service	Email Address	Email address per user

4. Changes from 2013-2015 Methodology

Change	Reason for Change

⁸ Middleware services listed under Midrange on Rate Schedule

⁹ Mail Hub services listed under Desktop on Rate Schedule

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Middleware services separated in methodology.	Middleware section was established to group services that are not part of the server infrastructure. Billed under Midrange.
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Hosting: Distributed Windows and Linux

1. Description

Windows and Linux based servers can be standalone or in a shared environment. Key strategies in this environment are:

- a. Virtualization wherever possible because of cost efficiencies, lower power and footprint requirements, higher availability and improved disaster recovery restoration.
- b. Ensure server size is appropriate for requirements and usage.
- c. Centralization and elimination of remote servers where possible.
- d. Reduce power utilization.
- e. Drive application compatibility with ETS standards.
- f. Unit counts for remote servers include CPU and RAM on the host and storage on the individual virtual server instance.
- g. Unit counts for local servers include CPU and RAM allocated to each customer and each individual server instance.

Windows and Linux:

- a. Server Instance: Includes the following hardware platform/OS instance which also includes, patching, antivirus, OS health monitoring, file transfer, OS network bandwidth and OS backup. Requires CPU and RAM to use.
- b. System CPU Resource Allocation: The number of CPU server cores associated with a server instance in increments of 1 CPU core.
- c. System Memory Resource Allocation: The amount of memory associated with a server instance; in increments of 1 GB RAM.
- d. Server Load Balancing Service: Additional support services required to create and maintain a load balanced configuration on multiple servers. Charged per server.
- e. Server Clustering Services: Additional support services required to create and maintain a server cluster. Charged per server.
- f. NAS Storage Unit: Use of a NAS file instance.
- g. Appliance Hosting Services: Hosting of a non-standard asset.
- h. SQL RAM: To be determined

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2. Assumptions

Usage forecasts were based on historical information and growth percentages. Costs were cost pooled to reflect the cost to support each service. These costs include personal service, hardware, software and maintenance.

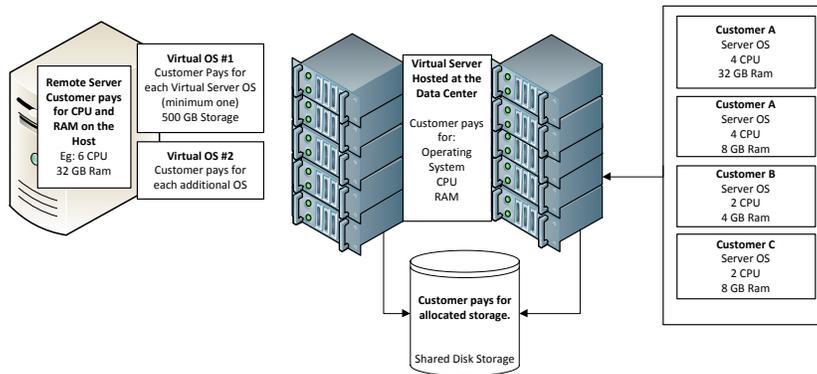
3. Billable Units

All units are either per month charge or a one-time fee depending on the catalog item.

Catalog item	Unit	How Unit Calculated
Server Instance	Instance	Per server instance Includes hardware platform/OS instance which includes patching, antivirus, OS health monitoring, file transfer, OS network bandwidth and OS backup. Requires CPU and RAM to use. Per Remote server instance Requires CPU and RAM to use
System CPU Resource Allocation	Server Core	Server entitlement of one processor core
System Memory Resource Allocation	GB RAM	Server memory entitlement of 1 GB RAM
Server Load Balancing Service	Load Balanced Server	Per Server, Load Balancing
Server Clustering Services	Service Unit	Per server per month
Appliance Hosting Services	Physical Appliance	Per Appliance. No additional charge for CPU, RAM or Storage
	Virtual Appliance	Assessed CPU, RAM and Storage only.
NAS Services	GB Enterprise Storage	Per allocated Storage per month

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Server Costs Sample



4. Changes from 2013-2015 Methodology

Change	Reason for Change
One server rate blended physical, virtual, local, remote Linux and Windows servers.	<p>The cost of purchasing the server hardware (physical or virtual) is approximately the same; server OS (Linux or Windows) is approximately the same and maintenance is overall the same. The effort and cost are approximately the same for "remote" or "onsite".</p> <p>On remote sites, the customer will pay CPU and RAM on the host box placed at that site and for each virtual instance plus storage. They will also incur costs on remote office service calls for IT Professional services billed at an hourly rate.</p>

DATA STORAGE SERVICES

Storage, Backup and Disaster Recovery

1. Description

Data storage is located in two environments: disk storage and disk backup. Disk storage can be direct attached storage (within the server) or it can be attached to the Storage Area Network (SAN). Disk backup is an on-site and off-site copy.

Storage:

- a. Enterprise Storage: SAN (includes iSeries) provides a flexible and efficient environment for enterprise class storage needs. Dynamic/automatic movement of data from one class of disk to another will allow the customer to meet changes in demand for that data without need for manual intervention.
- b. Mainframe Storage: Highest performing disk storage, fiber connected, fiber channel disk. Disk storage is internal to the Hitachi VSP. All components are fully redundant. This is dedicated SAN disk storage formatted specifically for the Mainframe. The Mainframe environment utilizes a VTS (Virtual Tape System) and data is backed up and sent to an offsite secure storage location.
- c. Local (Direct) Attached: Local attached (non SAN) disk storage for the Windows and Linux server environments.
- d. Backup Services: On-site and off-site disk backup. Daily backups are stored on disk for Distributed and UNIX environments. Backups are retained on-site for 30 to 60 days while a second copy of the backup is stored off-site for 30 days. Agencies can request different retention periods if required. The iSeries environment backs up to tape with a local copy stored on-site and a second set sent to an off-site secure storage location.
- e. Disaster Recovery Disk Replication: Rate and service definition under re-evaluation. **TBD**

2. Assumptions

- a. When storage is allocated for a device shared by multiple customers, charges will be allocated to those customers on the percent utilized of the total allocated storage.
- b. Distributed systems (Windows and Linux) customers will be charged for allocated usage attached to the SAN when the usage is known. When usage is not known, 80 GB will be charged at the direct attached Windows and Linux rate.
- c. Midrange systems customers will be charged for allocated usage at the enterprise rate.
- d. Mainframe systems customers will be charged for allocated usage at the mainframe rate.

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- e. Rates are determined by dividing the estimated program costs by the estimated units. Expenses were allocated based on the actual cost to provide each storage service. Estimated units were based on historical data and the percent of growth over time.
- f. Encryption rate for SAN disk and backup cannot be established at this time due to a limitation of the existing SAN Storage hardware, a need to define customer storage encryption requirements, and inadequate resources to fund tape encryption, purchase encryption licenses, and upgrade the USP. When these limitations are resolved, an encryption rate for SAN disk and backup may be established.

3. Billable Units

All units are either per month charge or a one-time fee depending on the catalog item.

Catalog Item	Unit	How Unit Calculated
Enterprise Storage	Enterprise Storage GB	GB Per Month
Local Attached Storage	Local Attached Storage GB	GB Per Month
Mainframe Storage	Mainframe Storage GB	GB Per Month
Backup Services	Backup GB	Backup GB per Month
Disaster Recovery	Disaster Recovery Test Environment	Per Day

4. Change from 2013-2015 Methodology

Change	Reason for Change
Three Storage Rates:	
1. Enterprise Storage – SAN (including iSeries)	Changes were made to storage rates because it was determined that ETS needed to manage the tiering and to utilize dynamic tiering to insure optimal performance. This will also allow ETS to manage costs and keep them in balance ultimately avoiding rising costs for the customer.
2. Local Attached Storage – All attached storage (excluding iSeries)	
3. Mainframe Storage – All mainframe storage	

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DATA NETWORK SERVICES

Local Area Network (LAN)

1. Description

Management of the State's network backbone and contracts for telecommunications.

- a. Local Area Network (LAN) & Wireless Services : (Wireless Services also referred to as wireless access points)

Charges are based on the number of switches (per 12 port) or wireless access points allocated to the customer. LAN services include the purchase, administration and management of the Local Area Network switching. This provides network connectivity between the point of demarcation at the customer site to desktops, printers and other computing devices. This service does not include cabling.

- b. Network Load Balancing:

Load balancing optimizes application performance and availability. Using health and performance checks, a load balancer distributes traffic among servers for efficient use of server resources and provides server failover for high-availability.

- c. Wireless Point to Point (WPTP) Assessment:

Sites in which there is a core network connection to a specific building and satellite (wireless) connections to other buildings within the vicinity. ETS will establish configuration standards for the wireless connections and the agencies will be responsible for the wireless infrastructure, installation and maintenance. The core bandwidth connection charges will be apportioned based on the bandwidth required by the agencies in the vicinity connected to the Wireless WAN service.

2. Assumptions

All costs associated with equipment purchase, ongoing maintenance and support personnel are used to calculate the rate/assessment.

3. Billable Units

Catalog Item	Unit	How Unit Calculated
LAN/WLAN Services	12 Port Switch or Wireless Access Point	Per switch or Wireless Access Point per month
Network Load Balancing	Server	Per server per month
Wireless PTP Services	n/a	Assessment

4. Changes from 2013-2015 Methodology

Change	Reason for Change
Wireless PTP from rate to assessment	The ETS Customer Utility Board (CUB) has adopted this blended rate and assessment model for 2015/17. The intent of the assessment is to fund the fixed costs related to operating and maintaining the State's core infrastructure and enterprise services.

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State Network Access Assessment

1. Description

Management of the State's network backbone and contracts for telecommunications.

- a. State Network Access Assessment: In this model, there will no longer be a State Network Access Charge (SNAC) for bandwidth. This rate was charged in 2013/15 and is now a part of the Core Network portion of the assessment.
 - i. Core Network Service
 - ii. Consumer Grade High Speed Wireless
- b. Network Pass-Through¹⁰: Network connectivity charges, includes transport costs, taxes, interlata charges, installation and domain registrations. These are charged by the telecommunications vendors and passed on to the customer. A five (5) percent charge is added to cover managing network telecommunications service contracts, attorney general fees associated with these contracts and personal services to provision the services.

2. Assumptions - None

3. Billable Units

Catalog item	Unit	How unit Calculated
Core Network Service	n/a	Assessment
Consumer Grade High Speed Wireless	n/a	Assessment

4. Changes from 2013-2015 Methodology

Change	Reason for Change
Core Network (SNAC) and Consumer Grade High Speed Wireless from rate to assessment.	The ETS Customer Utility Board (CUB) has adopted this blended rate and assessment model for 2015/17. The intent of the assessment is to fund the fixed costs related to operating and maintaining the state's core infrastructure and enterprise services.

¹⁰ Pass-Through not included in Assessment

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Security, Firewalls¹¹, VPNs

1. Description

End-User VPN:

- a. Secure user remote access allowing an individual to access specified computer resources through the Internet

Network Encryption Service (Site-to-Site VPN):

- b. Enhanced layer of security for site-to-site private networking to allow network traffic to be encrypted across the network between two sites

2. Assumptions

Connection from the public switched network to the customer's on site wiring. This is usually provided by the site owner through a conduit from a point near the property border to a network interface device in the building, commonly called the "demark" or demarcation point.

3. Billable Units

Catalog item	Unit	How unit Calculated
End User VPN	VPN Bundle per 25	Per Bundle
Network Encryption Service	End Point	Per end point. Unit counts are measured at .5 per managed end, per device, per month

4. Changes from 2013-15 Methodology

Change	Reason for Change
Basic Firewall configurations paid by assessment.	The ETS Customer Utility Board (CUB) has adopted this blended rate and assessment model for 2015/17. The intent of the assessment is to fund the fixed costs related to operating and maintaining the state's core infrastructure and enterprise services.

¹¹ Basic Firewall configurations included in assessment

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PRODUCTION SERVICES

1. Description

Production Services maintains a 24x7x365 physical presence at the State Data Center. Services include Mainframe and iSeries batch job scheduling and processing; monitoring system messages for warnings/alerts and taking client defined action for items such as: building alarms, x86 Computer Services, Network, Security, Storage, Mainframe, Midrange, SDC building security, and special applications; RACF and DataMart user resets and administration; TELNET updates, ViewDirect output archival system definitions maintenance; Mainframe and domain password resets.

- a. Application Monitoring. The number of hours for the 2015-2017 biennium will be billed at a fixed amount per month, based on biennial forecasted usage.
- b. System Monitoring is included in Assessment costs for 2015/17 biennium.

2. Assumptions

All other IT Professional Services provided by Production Services will be charged at the Base Generalist hourly rate times forecasted units divided by 24 months and billed monthly.

3. Billable Units

Catalog item	Unit	How unit Calculated
Application Monitoring	Coverage Unit	Fixed number of hourly units per month
IT Professional Services	Hour	Hourly rate * fixed #units/24
System Monitoring	N/A	Assessment

4. Changes from 2013-15 Methodology

Change	Reason for Change
System Monitoring moved from hourly rate to assessment.	Budget Adjustment

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APPLICATION SERVICES

Application Delivery Services

1. Description

ETS provides customization of purchased applications to enable DAS divisions to meet short-term needs and support future growth. This service accelerates the delivery of high quality business applications on standard technology platforms with fewer defects, less rework and lower costs over the lifetime of the application.

ETS also provides optional on-going maintenance and support of custom-built or purchased applications to help preserve the value of the applications over their lifecycle by optimizing application performance, enhancing capabilities, and even deleting obsolete functions.

Application Delivery services provide experienced staff to meet customers' applications needs, in customizing applications purchased and licensed by the customer.

2. Assumptions

All services are billed hourly at an IT Professional Services rate with the exception of initial time estimates for an Application Design Proposal.

3. Billable Units

Catalog item	Unit	How unit Calculated
IT Professional Services	Hour	# of hours * hourly rate

4. Changes from 2013-2015 Methodology

Change	Reason for Change
Application Delivery Services changed from assessment to rate.	In the 2013/15 biennium Application Delivery retained the assessment model developed prior to their move into ETS. In 2015/17 the services provided will be billable hours and/or usage fees.

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E-Government

1. Description

ETS provides online services that allow government agencies to:

- a. Better deliver services to citizens and improve interactions with business and industry through web-enabled applications and content.
- b. Improve efficiency of government management through tools that enable intra and inter-governmental collaboration.
- c. Empower citizens through access to information using an open data portal that brings government information together from diverse sources in a uniform way.

Services provided to agencies:

- a. Public Facing Websites with SharePoint Web content management, ability to embed other services and videos, mobile first design, a suite of supporting tools, user group, design services, warm site disaster recovery across two data centers in two states, annual independent security audits, Oregon GovSpace enterprise collaboration using Jive Software SBS, Open data portal using Socrata data portal. All applications and services receive service desk support.
- b. Credit card and eCheck online payments, support for all Treasury approved payment types, mobile enabled payments, annual independent PCI security audits, role based administration, multi-store rollup reporting, refunds, integration with SFMA and service desk payment application support. Application interacting with payments can be agency developed or E-Government developed.
- c. Custom developed public facing e-commerce and web applications focused primarily on custom public interaction with government over the internet and also interactive voice and kiosk integration. Enterprise licensing services offered that support efforts to consolidate licensing technology.
- d. E-Gov Intranet Hosting. Base level Enterprise SharePoint Intranet capability. Agency must purchase the Microsoft desktop client licenses. Additional Enterprise SharePoint intranet capabilities available.
- e. SilverSky Intranet Hosting. Intranet hosting provided under contract with SilverSky which integrates with SilverSky Email Hosting below.
- f. Hosted 3rd Party Email SilverSky (USA.net): Microsoft Exchange services hosted in the cloud. Basic and Premium service levels are offered. Both levels include free upgrades to future versions, 24x7x365 customer support, enhanced virus and spam protection, 99.99% uptime, on demand transport security encryption, 50 MB attachments, Tier IV data center hosting, web based admin, AD sync options, full nightly backups, reporting, increase storage as needed.
 - i. Basic services include Outlook Web Application, Calendaring, 3 GB storage and POP/IMAP integration with your Outlook client.

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- ii. Premium services include Active Sync mobile access, calendar sharing and global address book, up to 5 GB storage per user, Outlook Client, supports POP/IMAP and three other email access standards.
- iii. Additional services are instant messenger, Sharepoint Intranet, email archiving, content filtering, enforced transport layer security encryption, two-way email encryption with secure portal, 24x7x365, user support for the additional services.

2. Assumptions

Increases in use of E-Government Website, E-Commerce, Intranet, and SilverSky services will not require future increases in FTE in future biennia.

3. Billable Units

Catalog item	Unit	How unit Calculated
E-Gov E-commerce Contract Management	Payment Transaction	Per payment transaction
E-Gov Hosted Applications Contract Management	Application	Per custom application developed and hosted
E-Gov Website Contract Management	Page/File	Per number of hosted Website pages and files
E-Gov Intranet Contract Management	Intranet Site	Per intranet site hosted for agency
SilverSky Hosted Intranet Contract Management	Intranet Site	Per intranet site hosted for agency
SilverSky Hosted Email Contract Management	Email Accounts	Per email account

4. Changes from 2013-2015 Methodology

Change	Reason for Change
E-Government Services changed from assessment to rate.	In the 2013/15 biennium E-Government retained the assessment model developed prior to their move into ETS. In 2015/17 the services provided will be billable hours and/or usage fees.
SilverSky Email and Intranet changed from assessment to rate.	In the 2013/15 biennium E-Government retained the assessment model developed prior to their move into ETS. In 2015/17 the services provided will be billable hours and/or usage fees.

DESKTOP SERVICES

1. Description

Desktop Services offers resources to securely and reliably connect people to information. These include desktop and mobile computing, telephones, SmartPhones, and other workplace technologies that support business. The combination of flexible technology choices and standard deployments enables us to meet the varying needs of government customers.

Email

ETS Provided Enterprise Email: Enterprise email services enable email from Outlook clients, web browsers or mobile devices. It incorporates calendaring and instant messaging. Each account includes:

- a. Archiving, search and discovery capabilities based on a customer determined retention and customizable retention period.
- b. Effectively unlimited email storage.
- c. Calendaring with the ability to share calendaring information with other enterprise email customers.
- d. Instant messaging (IM) tool with messages stored in the email system. Option to use IM across customer agencies that are using enterprise email system.

LAN Workstation

LAN Workstation: Operational management of the customer's desktops, laptops, tablets, peripheral equipment (i.e. printers), and workplace tools such as email. Standard desktop software includes Microsoft Access, Excel, Outlook, PowerPoint, Publisher, Word, Visio, and Project. Effective July 1, 2016, this service will be billed to DAS Divisions only.

- a. Management of the customer's internal network (Local Area Network) that allows sharing of resources such as data, files, printers and applications.
- b. ETS bundles standard services and functions expected on today's office workstations, using Windows operating systems. The bundle includes:
 - i. Purchase, installation, configuration and maintenance of customer-owned equipment, operating systems and standard desktop software licenses; all products are maintained at vendor-supported levels and versions.
 - ii. Fully functional Outlook email, including email archiving and user account management.
 - iii. Active directory for user account management and for assigning and enforcing security policies for equipment and software.
 - iv. File servers which provide a location where customer files are stored and shared among users.
 - v. Print servers to accept print jobs from multiple computers.
 - vi. Remote desktop access to allow users to access computing resources from external location.

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- vii. End user help desk for desktop-related questions and issues.

File and Print Services

File and Print Services: DAS physical desktops are required for this service. Provides the ability to store files and folders in a secure manner and the ability to print. Effective July 1, 2016, this service will be billed to DAS Divisions only.

Computer Lab

Computer Lab: Provides a fully equipped site for customers to use to meet short term desktop computing needs such as training. The lab rental includes Windows-based computers and presentation tools. Computer Lab special installs will be charged an hourly rate. The base service includes:

- a. Seventeen computers with Windows 7 including the most current service packs and updates, MS Office 2007, Acrobat Reader, Internet Explorer, Hyperion System 11, Passport Mainframe.
- b. A secured network with access to the internet
- c. Projector, Smartboard, podium, flipcharts, laser jet printer
- d. Speaker phone
- e. Basic office supplies

2. Assumptions

- a. Rates are based on the number of desktops supported divided by the total costs to support them.
- b. Personnel costs – wages, salaries and benefits of employees assigned to the desktop service line.
- c. Infrastructure costs – hosting services, enterprise licensing agreements, networking, and storage rates to support the desktop services.

3. Billable Units

<i>Catalog item</i>	<i>Unit</i>	<i>How unit Calculated</i>
Computer Lab Half day	Half Day	Four hours or less
Computer Lab Full Day	Full Day	Per full day or over 4 hours
Enterprise Email and Calendaring	Mailbox	Per email account.
File/Print Service	Workstation	Per workstation supported.
LAN/Workstation	Workstation	Per workstation supported.
Professional Services	Hour	# of hours * hourly rate

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Changes from 2013-2015 Methodology

<i>Change</i>	<i>Reason for Change</i>
LAN/Workstation (Desktop) Services for DAS divisions and DAS client agencies changed from assessment to rate	In the 2013/15 biennium Computer Desktop Services retained the assessment model developed prior to their move into ETS. In 2015/17 the services provided will be billable hours and/or usage fees.

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VOICE SERVICES/PHONE

1. Description

DAS has contracted with CenturyLink to support all phone systems connected to the state network (on-network – Portland, Salem, Albany, Corvallis, Eugene, Roseburg, Grants Pass, Medford and Bend).

ETS selected a long term solution with International Business Machines (IBM) and expects to begin deployment in early 2016.

- a. Optional service offerings include:
 - i. Custom scripts for call routing
 - ii. Conferencing
 - iii. Toll Free service
 - iv. Remote call forwarding
 - v. Long distance
 - vi. Calling cards
 - vii. International calling
 - viii. Phone headsets
 - ix. Call center equipment and services
 - x. Onsite custom usage reporting system
 - xi. Directory listings
 - xii. Call trace coordination
 - xiii. Call rerouting

2. Assumptions

- a. ETS estimated 12,500 handsets would be remaining on the CenturyLink contract as of July 1, 2015.
- b. Contracted rate for CenturyLink service for on-network locations is \$25.43 per handset.
- c. Estimated average rate for long term solution per handset TBD.

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3. Billable Units

Catalog item	Unit	How unit Calculated
Handset Voice, First Year	Per Station (handset or additional line appearance)	Per handset. Rate is combination of the CenturyLink handset rate and ETS overhead rate.
Handset Voice, Second Year	Per Station (handset or additional line appearance)	Per handset
Voice Pass-Through Charges	Dollar for Dollar	This rate is passed-through dollar-for-dollar by the vendor on services ordered by the agency. Expenses include CenturyLink and future long term contract service provider charges, long distance, calling cards, TSOs, 800 numbers, repair tickets, voice trunking and directory listings.

4. Changes from 2013-2015 Methodology - Pending

Change	Reason for Change
New vendor	Contract negotiations pending Summer 2015

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GLOSSARY

Batch/Batch Processing

A group of records or data processing jobs brought together for processing or transmission. Batch applications are processed on the mainframe without user interaction. A batch job is submitted on the computer; the job reads and processes data in bulk.

BURR

ETS Billing Usage & Revenue Recovery System - Provides customer invoicing and usage reporting.

Clustering

A set of connected servers working closely together to provide improved performance and/or availability over a single server, such as high-availability or fail-over clusters. Computer clusters may be configured for different purposes ranging from general purpose business needs such as web-service support, to computation-intensive scientific calculations.

CICS (Customer Information Control System)

An online transaction processing program, that has become the most common set of tools for building customer transaction applications for large enterprise mainframe computing. CICS is a transaction server that runs primarily on mainframe systems under z/OS and z/VSE.

Cost Pool (Pooled/Pooling)

A group of associated costs, that all relate to a specific service. Allows the association of direct and indirect costs to a specific service or, making it easier to determine the total amount of expenses involved with the provision of the service. Also known as cost center.

CPU (Central Processing Unit)

A single computing component which reads and executes program instructions (a CPU carries out the instructions of a computer program by performing the basic arithmetical, logical, and input/output operations of the system.)

DB2

IBM relational database management system.

DBMS (Data Base Management System)

A software system that uses a standard method of cataloging, retrieving, and running queries on data; manages and organizes incoming data, and provides ways for the data to be modified or extracted by users or other programs.

Desktop/Workstation

State issued personal computer or laptop with standard software installed. Also known as a "workstation" the generic term used to represent the technology a person uses as their "electronic desktop", typically a PC or laptop.

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Expedited Service

A level of service above the standard, usually used for quick provision of service request, putting the expedited request ahead of other requests. Not currently provided as a formal service level.

FTI (Federal Tax Information)

Applies to individual's federal tax return information provided to agencies, and how this confidential data must be protected.

FTP (File Transfer Protocol)

A standardized method of transferring files over the Internet. An application protocol used for transferring files to and from host computers.

Gb (Gigabit)

A unit of data transfer equal to 1,000,000,000 (1 billion) bits per second. (A bit is a single character.) In network usage, refers to the volume of data that can be transmitted across a connection per second.

GB (Gigabyte)

A unit of digital information storage 1,000,000,000 (1 billion) bytes. (A byte is 8 characters.) In computing usage, refers to a volume of data.

Interlata

Calls between two Local Access and Transport Areas (LATAs); long distance calls.

LAN (Local Area Network)

Networking of computing devices within the customers' physical locations and to the state network.

Mb (Megabit)

A unit of network speed equal to approximately one million or specifically 1,048,576 bits. (A bit is a single character.) In network usage, refers to the volume of data that can be transmitted across a connection per second.

MB (Megabyte)

The **megabyte** is a multiple of the unit byte for digital information storage or transmission with three different values depending on context: 1,000,000 bytes generally for computer storage or transmission rates; 1,048,576 bytes generally for computer memory.

Methodology

The set of practices used to develop ETS rates; the method.

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Middleware

Middleware supports and simplifies complex distributed applications. It includes web servers, application servers, messaging and similar tools that support application development and delivery. Middleware sits "in the middle" between application software that may be working on different operating systems.

Midrange/Midrange Systems

A class of server between the distributed systems Window/Linux servers and the mainframe system. ETS midrange systems are sometimes referred to as UNIX and iSeries systems.

NAS (Network Attached Storage)

Dedicated storage device that is set up with its own network address and provides data storage services to other devices on the network. Also

Network Load Balancing

Load balancing is the ability to balance traffic across two Wide Area Network (WAN) links.

OS (Operating System)

Software that communicates with the hardware and allows other programs to run.

POP (Policy Option Package)

A state of Oregon budgetary term for proposed changes to agency programs or agency initiative requests. These proposals are not part of the base budget of an agency.

PMBOK (Project Management Body of Knowledge)

A guide and internationally-recognized standard for project management practices.

Price List

DAS services and related costs that will be included in agency budget for charges from DAS for the biennium.

RAM (Random Access Memory)

Temporary storage area of the server, used by the operating system, application programs and data in current use allowing for quicker access than other storage.

Remote/Remote Site

Facility or location other than the State Data Center.

SAN (Storage Area Network)

A high-speed special-purpose network or sub network that interconnects data storage devices with data servers.

Server Load Balancing

A form of server clustering in which multiple servers are linked together to share job execution workload, cache and request handling. "Load-balancing" clusters are configurations in which cluster-nodes share computational workload to provide better overall performance. For example, a web server cluster may assign different queries to different nodes, so the overall response time will be optimized.

Service

For the purposes of this document, a generic term meaning supplying a utility or commodity as used in service provider or service delivery; does not refer to the formal definition of an ETS service as defined in the ETS Service Catalog.

Service Offering

Individual services or products available under Service line services.

TSO/TSO Processing

In the context of this methodology, TSO is Time Sharing Option on the mainframe and provides an interactive session with remote terminals. While essentially a type of batch job on its own, it provides the communication with a system that allows users to submit batch processing jobs, view data, monitor job flow, print, edit files, etc.

VSP/Hitachi VSP

Hitachi Virtual Storage Platform, also known as VSP Supports automated storage tiering, known as Dynamic Tiering, to automate the movement of data between tiers to optimize performance.

Windows

Brand name of Microsoft operating systems.

Workstation

See Desktop

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Appendix A

Costs and Services Changed from Rate to Assessment in 2015/17

ASSESSMENT
Costs
Administrative Support Costs
Technical Professional Training
Services
Consumer Wireless
Data Center Floor Space ¹²
Data Center Floor Space, Montana
State Network Access (SNAC)
System Monitoring
Warehousing
Wireless PTP Services
Basic Firewall Configurations

Services Changed from Assessment to Rate in 2015/17

Rate
Services
DAS Enterprise and Internal Application Customization and Support* ¹³
E-Gov E-commerce Contract Management
Silversky Hosted Email Contract Management
E-Gov Hosted Applications Contract Management
E-Gov Website Contract Management
E-Gov Intranet Contract Management
SilverSky Hosted Intranet Contract Management

DAS and DAS Client Agencies Services Changed from Assessment to Rate in 2015/17

Rate
Services
Basic LAN/Workstation (Desktop)
Enterprise Email

¹² OHA/MMIS will be billed for Data Center floor space

¹³ Service internal to DAS Divisions

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Appendix B

SOURCE FILE LOCATION (For internal use only)
Billable Hours: \\Wptscfill02\sd\SDC_Functions\Financial_Mgmt\FullCost_Maturity_Model\FY_15_17\FY_15_17_Planning\Methodology\Source_Files\Labor_Run_Total.xlsx
E-Government: \\Wptscfill02\sd\SDC_Functions\Financial_Mgmt\FullCost_Maturity_Model\FY_15_17\FY_15_17_Planning\Methodology\Source_Files\EGov.xlsx
Mainframe: \\Wptscfill02\sd\SDC_Functions\Financial_Mgmt\FullCost_Maturity_Model\FY_15_17\FY_15_17_Planning\Methodology\Source_Files>Mainframe.xlsx
Midrange: \\Wptscfill02\sd\SDC_Functions\Financial_Mgmt\FullCost_Maturity_Model\FY_15_17\FY_15_17_Planning\Methodology\Source_Files\Midrange.xlsx \\Wptscfill02\sd\SDC_Functions\Financial_Mgmt\FullCost_Maturity_Model\FY_15_17\FY_15_17_Planning\Methodology\Source_Files\Run_Total_Report_July_2013.xlsx
Middleware: \\Wptscfill02\sd\SDC_Functions\Financial_Mgmt\FullCost_Maturity_Model\FY_15_17\FY_15_17_Planning\Methodology\Source_Files\Middleware_Web.xlsx
Network: \\Wptscfill02\sd\SDC_Functions\Financial_Mgmt\FullCost_Maturity_Model\FY_15_17\FY_15_17_Planning\Methodology\Source_Files\Network.xlsx \\Wptscfill02\sd\SDC_Functions\Financial_Mgmt\FullCost_Maturity_Model\FY_15_17\FY_15_17_Planning\Methodology\Source_Files\Network_Costs.xlsx
Pass-Through: \\Wptscfill02\sd\SDC_Functions\Financial_Mgmt\FullCost_Maturity_Model\FY_15_17\FY_15_17_Planning\Methodology\Source_Files\PassThrough_Forecast.xlsm
Storage: \\Wptscfill02\sd\SDC_Functions\Financial_Mgmt\FullCost_Maturity_Model\FY_15_17\FY_15_17_Planning\Methodology\Source_Files\Run_Total_Report_July_2013.xlsx \\Wptscfill02\sd\SDC_Functions\Financial_Mgmt\FullCost_Maturity_Model\FY_15_17\FY_15_17_Planning\Methodology\Source_Files\Storage_Mainframe.xlsx \\Wptscfill02\sd\SDC_Functions\Financial_Mgmt\FullCost_Maturity_Model\FY_15_17\FY_15_17_Planning\Methodology\Source_Files\Top11_Deliverables_Growth_Forecast.xlsx
Voice: \\Wptscfill02\sd\SDC_Functions\Financial_Mgmt\FullCost_Maturity_Model\FY_15_17\FY_15_17_Planning\Methodology\Source_Files\Voice.xlsx \\Wptscfill02\sd\SDC_Functions\Financial_Mgmt\FullCost_Maturity_Model\FY_15_17\FY_15_17_Planning\Methodology\Source_Files\Voice_Passthrough.xlsx
Windows and Linux: \\Wptscfill02\sd\SDC_Functions\Financial_Mgmt\FullCost_Maturity_Model\FY_15_17\FY_15_17_Planning\Methodology\Source_Files\Top11_Deliverables_Growth_Forecast.xlsx \\Wptscfill02\sd\SDC_Functions\Financial_Mgmt\FullCost_Maturity_Model\FY_15_17\FY_15_17_Planning\Methodology\Source_Files\Server_Instance_sample.vsd \\Wptscfill02\sd\SDC_Functions\Financial_Mgmt\FullCost_Maturity_Model\FY_15_17\FY_15_17_Planning\Methodology\Source_Files\Server_Package.xlsx \\Wptscfill02\sd\SDC_Functions\Financial_Mgmt\FullCost_Maturity_Model\FY_15_17\FY_15_17_Planning\Methodology\Source_Files\Run_Total_Report_July_2013.xlsx
Workstation: \\Wptscfill02\sd\SDC_Functions\Financial_Mgmt\FullCost_Maturity_Model\FY_15_17\FY_15_17_Planning\Methodology\Source_Files\TSC.xlsx
Misc.: \\Wptscfill02\sd\SDC_Functions\Financial_Mgmt\FullCost_Maturity_Model\FY_15_17\FY_15_17_Planning\Methodology\Source_Files\Forecasted_Values.xlsx \\Wptscfill02\sd\SDC_Functions\Financial_Mgmt\FullCost_Maturity_Model\FY_15_17\FY_15_17_Planning\Methodology\Source_Files\Trending_statement.xlsx

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Appendix C

Limited Service Offerings

The following services are listed on 2015-17 ETS Rate sheet but are not a service that are sold to new customers.

Service	Reason
Special Fiber Strand	Not a current service offering. Network Circuits installed in the Capitol Mall from 2007-2011. Services provided to ETS, Legislative 156000 (OLIS), Lottery, Military, Corrections, OHA, ODF, ODOT and Housing.
zVM Guest Instance	Not a current service offering. Service provided to Agency 156040 Legislative Admin (OLIS) only.
Data Center Floor Space	Not a current service offering. OHA/MMIS only.

Special Fiber Strand – The use of unused fiber strands available from Telecommunications vendors for customers to establish their own optical connections between two locations. ETS will establish this connection by lighting up the dark fiber provided by a Telecommunications vendor.

zVM Guest – See Service Agreement

Colocation-Data Center Floor Space / Square Foot, Data Center: This service provides data center floor space for location of computing equipment. The standard unit for this service is square foot in a conventional data center. The service includes HVAC, fire detection and prevention, uninterruptable power supplies, emergency generators, secure facilities, and 24X7 remote surveillance and environmental monitoring. This service includes the immediate escalation of incidents related to the physical asset in accordance with procedures provided by the customer. It does not provide monitoring of the operation of the software running on the co-located equipment. Customer must purchase network port(s) as needed.

Forecasting Method: Data Center Floor Space used times (x) Square Foot cost. All costs related to Data Center operation such as rent, power and maintenance.

Growth Assumptions: Growth rates based on service line projected usage

Source: Colocation services are provided per square foot of floor space.

Note: Floor space is based on two foot by two foot grid units (4 square feet as the unit of measure for this service.)