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1.0 GENERAL

1.1 SUMMARY

The Office of Technology Services (OTech) provides hosting services and equipment based on the Microsoft Windows Server operating system within the data center. This document provides guidance of physical and virtual Windows Server technology within application hosting at OTech.

This technical offering includes product procurement, installation, maintenance, security administration and system account management. OTech staff performs these tasks according to standard procedures and configurations.

The installed operating system includes anti-virus protection and operational recovery services. Microsoft Active Directory is used for system account management.

1.2 REFERENCES

Items referenced here are used to support the information provided elsewhere in this document.

IDENTIFIER	DATE	TITLE
04.17.886	2016	Windows Application Hosting, Server Submittal
04.15.881	2012	Local Area Network Guideline
363	2010	Firewall and Access Control List Request Form, 363
3138	2015	OTech System Administrator Access Standard, 3138
4000	2013	OTech Software Version Support Policy
4000	2013	OTech Software Version Support Procedure
Web Site	NA	OTech Contact Information
Web Site	NA	OTech Service Request Process
Web Site	2016	OTech Rates Schedule

1.3 SUBMITTALS

1.3.1 General

OTech is available to advise and assist customers in formulating IT designs that will leverage available service offerings. Contact your Account Manager to engage

architectural, engineering and design consulting services. Charges may be incurred for certain consulting services.

Include the Customer's name, contact information and associated project name on forms, documents, and requests submitted to OTech.

1.3.2 Service Request

For Windows environments, a completed Windows Server Submittal is required prior to the start of work. To aid in the preparation of providing this technology, all information must be included in the OTech Service Request.

The OTech requires the following method be used for work requests:

Item	Request Method
Quotes & Billable Service (new or changes to existing services)	OTech Customer Service System (CSS) Service Request (SR) (or in 2016 - Remedy Service Request if your group has been transitioned to Remedy for all OTech Service Requests)
Modifications to Existing Systems	OTech Service Desk or Remedy Service Request
Technical Problems	OTech Service Desk or Remedy Incident
Security Related Issues/Incidents	OTech Service Desk

1.4 EXPECTATIONS

1.4.1 OTech

OTech manages contract and licensing for operating system software and serves as liaison between the customer and technology vendor for technical system level issues.

OTech will document end-of-support information to Customers in E-News notifications. Technology products must be within vendor supported versions to sustain availability and integrity.

OTech follows change management practices. Change requests are recorded in the [OTech Remedy Service Request](#) system as a Change Request (CRQ). Contact your OTech account managers for current change procedures.

1.4.2 Customer

Customers are expected to understand product lifecycles and collaborate with OTech on upgrades, testing, and verification of their Windows technology before the end-of-support date. Failure to migrate off of unsupported versions may incur additional charges. Refer to the [OTech Procedure 4000 – Software Version Support](#) for details.

Customers will determine and submit software (e.g., OS version) and hardware capacity (e.g., RAM, storage) needs when requesting services.

Customers are expected to identify and lead the resolution of database/application specific related problems on Windows servers. Customers may identify and report system level problems to OTech.

1.5 SCHEDULING

The OTech's goal is to provide timely, comprehensive, and economical technology service. Customers promote this goal by promptly providing information requested and by keeping the OTech Account Manager / Project Manager informed of technology project status.

1.5.1 Backups

OTech performs Windows backup and recovery tasks.

1.5.2 Maintenance

Windows maintenance period is scheduled Fridays from 1800 to 0100 hours.

1.5.3 Change Management

Windows change proposal / requests follow the established OTech Change Management process. Work performed during scheduled maintenance periods is subject to the OTech Change Management Schedule. Changes require 2-week prior notification. Shorter periods may not always be expedited. Additional charges may be incurred for expedited change requests.

1.5.4 Hardware

Server environments that require unique equipment (non-standard server configurations or large quantities of memory) could require procurement which may cause schedule delays.

1.6 DEFINITIONS

Term, phrase, abbreviation	Definition
Reprovisioning	Reconfiguring and/or repurposing a server from its originally intended configuration
DNS	Domain Name System
Application Hosting	OTech's hosting model that includes management of infrastructure and system-level activities
E-News	Communication email from OTech to its Customers including important product and support information

2.0 PRODUCTS

2.1 ***WINDOWS OPERATING SYSTEM***

- Windows 2012 R2 Standard (64-bit)*
- Windows 2008 R2 Standard (64-bit)
- Windows 2008 R2 Enterprise (64-bit)

* Windows Server 2012 R2 Standard (64-bit) is the current recommended Windows version. There is no “Enterprise” edition of 2012 since Microsoft rolled most 2008 Enterprise features into the 2012 Standard edition.

2.2 ***WINDOWS VIRTUAL SOFTWARE***

In Q1 of 2014, OTech modernized its application hosting capability by expanding its virtualization capabilities, and updating its Intel-based server hosting to incorporate industry based standards and comprehensive virtual hosting services. The VMWare’s vSphere ESXi Hypervisor infrastructure enables OTech to provide a secure, robust, and resilient virtualization service.

OTech staff will assist customers with determining the appropriate OTech virtual platform for their requests.

2.3 ***OPTIONAL COMPONENTS***

The Windows Server operating system provides numerous roles, features, components and services that can be added and configured. There are also third-party components that are available for the OS. OTech will review all requested unique components and services and may have input on their use within the OTech environment.

2.4 SERVER CONFIGURATIONS

Default server configuration table:

Component	Tier I Physical Server	Virtual Server (see Section 2.2 above)
OS	Server 2012 R2 Standard-64bit	Server 2012 R2 Standard-64bit
CPU	2 x 8-core (16 total cores)	1 virtual core (Maximum 12 virtual cores)
Memory	16GB	1GB vRAM (Maximum = 32GB vRAM)
Storage	60GB total	Purchase amount needed (8GB recommended)

Default server configurations may change depending on State purchasing requirements, contracts, hardware repurposing, or vendor hardware lifecycle modifications.

Windows Server 2012 R2 Standard-64bit offers increased product support and enhanced security benefits. OTech staff recommends the R2 operating system unless the application requires otherwise. Operating system version modifications requested outside of the defaults listed in the Server Configuration table must be reviewed and approved by OTech.

2.4.1 Hardware

An inventory of Tier I hardware and virtual servers are maintained by OTech.

OTech's current physical Tier I server specifications provide sufficient computing power for most projects. Other server configurations are not in-stock.

2.4.2 Memory

Additional memory may be purchased in 16GB or 32GB increments for physical servers and 1GB increments for virtual servers. Requests in excess of 32GB may be subject to procurement.

2.4.3 Storage

Storage requirements should take into account web/app/database file sizes and server log files that will be created and stored (usually on a daily basis).

- Data stored on local storage must comply with OTech's security policy and may not include business logic and/or database functions. Applications which provide these functions must store their data on OTech's enterprise (SAN) storage.
- Windows physical servers include 60GB of local application storage. Additional Storage Area Network (SAN) storage may be requested in 1GB increments for an additional fee.
- Virtual servers utilize the OTech SAN disks. OTech recommends a minimum data storage of 8GB on the D: data drive.

2.4.4 Server Naming

Servers hosted at OTech follow a standard naming convention based on the operating system, domain, customer, function, sequence and environment. Upon agreement of the server environment design, an OTech engineer will coordinate with the Customer to determine appropriate server names.

2.5 UNIT PRICE

Refer to the [OTech Rates Schedule](#) for further details. However, alternate hardware and operating system configurations are available for an additional cost. For specific costing and configurations for the server(s) and environment(s), contact your OTech Account Manager.

3.0 EXECUTION

3.1 SECURITY

MS Windows Server Administration (SA) authority is restricted to OTech designated personnel. Server access is permitted based upon server function and data type. Customers must refer to [OTech Standard 3138 – System Administrator Standard](#) should SA be provided. SA privileges are never permitted on shared services.

Configuration changes made outside the scope delineated herein and needing intervention, correction, or troubleshooting by OTech staff may incur additional charges.

3.2 SUPPORT AVAILABILITY

Core business hours for Windows technical support are Monday through Friday 0800-1700. State holidays and mandated schedule alterations are observed and may impact staff availability.

3.3 QUALITY CONTROL

3.3.1 OTech Responsibilities

1. Review and approval of submitted information prior to beginning work.
2. Notify Customer of submittal flaws or concerns, if any.
3. Assist Customer in specifying design in accordance with information provided in 1.3 - SUBMITTALS.
4. Product installation, upgrades, patching and standard configuration.
5. Perform security scan after installation and configuration.
6. Assist Customer with incident resolution subsequent to application configuration changes.

3.3.2 Customer Responsibilities

1. Complete and provide 1.3 - SUBMITTALS.
2. Design, develop, configure, deploy, test, operate and maintain application(s).

3.4 INSTALLATION

Servers will be installed in accordance with OTech standards and applicable Customer submittals.

1. Install and configure operating system in accordance with manufacturer's installation procedures

2. The OTech Windows Server naming conventions apply based on factors controlled by OTech. Once server(s) and environment(s) are defined, OTech will work with the Customer to determine appropriate server names
3. Responsibilities listed below may vary for OTech and/or Customers depending on individual project requirements

3.4.1 OTech Responsibilities

1. Review submitted information for completeness
2. Review and recommend optional configurations that may better meet capacity and performance requirements in accordance with the Windows Server Submittal
3. Installation and configuration of Windows server and server components
4. Administration of the operating system and approved system-level related changes
5. Maintenance of operating system software, configuration, data and log files
6. Alert Customer of operating system faults or errors when appropriate
7. Retain operating system root authority
8. Perform scheduled operating system upgrades and patching
9. Troubleshoot operating system and report status to Customer
10. Perform scheduled hardware refreshes
11. Manage and perform server hardware maintenance
12. Engage Microsoft services as necessary for problem resolution
13. Secure operating system in accordance with OTech standards. Reduce vulnerability by only implementing necessary components. Apply operating system-level patches and security patches. Only approved application ports are opened. See [Local Area Network Guideline](#) and [OTech Architecture Standard, 3117](#)
14. Communicate installation status to Customer
15. Communicate Domain Name System (DNS) host name(s) to Customer

3.4.2 Customer Responsibilities

1. Submit completed Windows Server Submittal and all other appropriate submittal forms
2. Application design, development, testing, and migration adhering to supported software versions
3. Design and implementation shall avoid system use of or dependence upon OS System Administrator privileges. Submittals indicate file system constraints and privilege / permission requirements
4. Provide application start/stop scripts as applicable in accordance with information provided in the appropriate server submittal forms
5. Install application and supporting software, if applicable
6. Maintain application software, components and accessories
7. Notify OTech of any server/account changes
8. Design, develop, test, operate and maintain application required system-level scripts (e.g., code deploys, rotation logs, start, stop)

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WINDOWS SERVER GUIDELINE

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9. Control over the deployed applications and the means of orderly start up and shut down including installation of scripts. Identify these scripts in OTech server submittal forms or other documents
10. Installation and periodic upgrade of Third Party Software in support of the application
11. Document application architecture and keep it current
12. Respond to threshold limit notifications provided by OTech staff with mitigating action
13. Maintain application statistics
14. Test new maintenance and software releases at application and user levels
15. Maintain application development tools running on attached client(s)
16. Determine when an application/file restore is needed. See section 1.5- SCHEDULING
17. Provide account access requirements and information for remote management of server resources and data
18. Monitoring, troubleshooting and reporting status of application operation and execution where Server operation may be affected
19. Manage and control files related to application execution and employ measures to control impact of extraneous files
20. Notify OTech of application revisions for proper record keeping
21. Test new and maintenance application software releases
22. Test system software upgrade and patching. Notify OTech of adverse test results