Infrastructure Hosting Service

Service Level Expectations

September 2018
## Contents

Infrastructure Hosting Service ................................................................................................................................................ 1
Purpose ................................................................................................................................................................................... 1
Service Overview ..................................................................................................................................................................... 1
Service Warranty ..................................................................................................................................................................... 2
  Support Model .................................................................................................................................................................... 2
  Support Hours and Initial Response Times ......................................................................................................................... 3
  Support Request Resolution Targets .................................................................................................................................. 3
Service Request Fulfillment Targets .................................................................................................................................... 4
  Service Availability .............................................................................................................................................................. 5
  Service Continuity ............................................................................................................................................................. 5
  Business Continuity ........................................................................................................................................................... 5
Change Management and Service Reviews ............................................................................................................................ 6
  Service Reporting & Metrics ............................................................................................................................................... 7
  Review and Revision Timeline ............................................................................................................................................. 7
Roles and Responsibilities ....................................................................................................................................................... 7
Service Offerings ..................................................................................................................................................................... 8
  Private Cloud Premier ......................................................................................................................................................... 8
  Private Cloud Essential ........................................................................................................................................................ 8
  Public Cloud Enablement .................................................................................................................................................... 8
  Web Platform Management ............................................................................................................................................... 9
  Managed Database ........................................................................................................................................................... 10
  Data Center Hosting ......................................................................................................................................................... 11
  Raw Storage ...................................................................................................................................................................... 11
Purpose
This document represents the Service Level Expectation (SLE) for the Washington University Information Technology (WashU IT) Infrastructure Hosting Service. The purpose of this agreement is to ensure this service meets customer expectations and to define the roles/responsibilities of each party. The SLE outlines the following:

- Service Overview
- Service Features (included & excluded)
- Service Warranty
- Service Roles & Responsibilities
- Service Reporting & Metrics
- Service Review, Bundles & Pricing

Each section provides service and support details specific to the Infrastructure Hosting Service as well as outlining WashU IT’s general support model for all services and systems.

Service Overview
Shared Infrastructure provides a number of services tailored to providing commodity infrastructure capabilities covering a wide range of needs from a single IT organization.

Fully Supported
A managed solution of servers, storage, operating systems and databases to units wanting to shift their commodity computing support to WashU IT thus freeing resource focus to managing their applications and performing data analysis to support the school or department mission.

Independent
A collection of solutions designed for units that need to retain some of their systems management at a local level and wish to leverage infrastructure technology investments made by Washington University. School or department resources will be required for systems support.

These two categories are not mutually exclusive and adoption by a school, department or center could be any blend of these categories. Hypothetically, in order to meet its mission specific operating requirements, any school, department or center (unit) might use Fully Supported services for clinical and administrative applications and Independent services for research applications.
Infrastructure Hosting Service

Service Warranty

This section describes the support structure in place for all WashU IT services and any unique warranties and specialized support associated with the Infrastructure Hosting Service.

Support Model

WashU IT has established technology services and systems to meet customer objectives in support of the University's mission. To ensure IT services and systems meet customer needs, WashU IT has established the following support model: **Support for Public Cloud Enablement is currently limited to Account Management and Billing support issues. Support requests for workload or other vendor cloud capabilities should leverage the public cloud vendor’s support options.**

General Support

1. **One Contact Point** - to initiate any support or service request call, email or make a web request.
   - Call: 314-933-3333 to initiate any support or service request.
   - Email: ithelp@wustl.edu initiate any support or service request.
   - Web Request: [http://it.wustl.edu](http://it.wustl.edu)

2. **All Requests Documented** – a support or service ticket is created for each customer request. All support and service requests are tracked in one service management system (called ServiceNow) for easy tracking and resolution across WashU IT.

3. **Virtual and Onsite Support** – standard support and service requests (85%) will be handled via routine procedures by service center staff via virtual support technologies like phone, remote desktop assistance and instant messaging. Standard support and service requests that cannot be resolved by the service center will be routed to technicians who will meet with the customer to bring the request to resolution. Non-standard support and service requests will be routed to WashU IT managers for consultation with the customer to address the request.

4. **Service and Process Owners** – individual WashU IT staff have been named as Service Owners or Process Owners to ensure accountability for WashU IT services and processes. Service Owners work with established WashU IT Governance committees and customers to ensure WashU IT services are scoped, resourced and supported in a manner that allows the service to stay healthy across the lifecycle of its use at the University. Process Owners work with WashU IT managers and Service Owners to ensure WashU IT has established procedures for meeting customer support and service requests.

5. **Customer Relationship Management** – regular meetings will be established with each customer department by WashU IT’s Customer Relationship Management (CRM) team. These regular meetings will address quality of services provided, identify new customer projects/initiatives requiring WashU IT services and inform customers of any planned changes to existing IT services. Reports from these meetings are reviewed by WashU IT leadership on a regular basis to ensure customer satisfaction is met and to identify customer needs that should be addressed via new technology services or enhancement of existing services.

Specialized Support

1. **After Hours Engagement** – Customer selectable option for contact and partnered engagement during Extended Support Hours. Engagement is initiated upon automated critical alerts involving customer purchased services.

<table>
<thead>
<tr>
<th>After Hours Engagement</th>
<th>Contact Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Option 1</td>
<td>Phone Call &amp; Email</td>
</tr>
<tr>
<td>Option 2 (Default)</td>
<td>Email</td>
</tr>
<tr>
<td>Opt-Out</td>
<td>No Contact</td>
</tr>
</tbody>
</table>
Support Hours and Initial Response Times

WashU IT has established the following general support hours and initial response times to meet customer support and service request needs. Note that CRITICAL support and service requests are defined as technology issues affecting the customer’s ability to perform urgent university business without an acceptable technology workaround in place.

**Standard**

**Business Hours:** 7 am – 5:30 pm (M – F) during regular campus business days

**Initial Response Times:** ANY support or service request will be responded to within the following times.

- Calls to 933-3333 - 80% answered in 20 seconds or less
- Emails sent to ithelp@wustl.edu will be responded to as outlined in the “Support Request Resolution Targets” section below.
- Web Requests made via the ServiceNow “report an issue” form will be responded to as outlined in the “Support Request Resolution Targets” section below.

**Extended**

**After Hours:** any time or day not within standard business hours

**Initial Response Times:** CRITICAL support or service requests will be responded to within the following times.

- Calls – after hour calls will be answered by the WashU IT Systems Operations Center (SOC). The SOC will either resolve the issue or page on call staff to resolve the issue. On call staff will respond to the after hour pager on average* within 30 minutes

**Note** – non-CRITICAL support or service requests will be responded to within standard business hours and response times. *averages are calculated on a monthly basis

Support Request Resolution Targets

WashU IT has established the following general support escalation procedures and resolution targets to meet customer support request needs. Note that service request fulfillment is addressed in a latter section titled “Service Fulfillment Targets”. This section is only addressing support escalation and resolution.

**Support Escalation & Resolution Procedures** – all support requests will be escalated from the initial general support team to a specialized support team based on the priority of the support request or if the general support team cannot resolve the issue within 20 minutes. Once the request is escalated to a specialized support team, the customer will be notified and the specialized support team may contact the customer for further information and testing. Once the specialized support team resolves the request, the general support team will review the resolution to ensure quality control. Once the general support team confirms the resolution has met the customer’s needs, the request will be closed. Communication with the customer will be via email. If the customer does not reply within 3 business days, the ticket will be automatically closed.

**Prioritization** – all support requests will be given a medium priority unless the customer indicates an impact or urgency that requires a higher prioritization. Impact is defined as the affect to which a technology service or system is inhibiting the customer’s ability to conduct University business. Urgency is defined as the timeframe in which the customer needs the technology issues resolved or a workaround put in place.

WashU IT uses the following priority scale for systems and services not performing normally.

<table>
<thead>
<tr>
<th>Priority</th>
<th>Description</th>
<th>Response Target</th>
<th>Resolution Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>Critical</td>
<td>Global Issues&lt;br&gt;Business critical issues – impacting ability to perform mission&lt;br&gt;Issues affecting multiple users unable to be productive</td>
<td>15 minutes</td>
<td>4 hours</td>
</tr>
<tr>
<td>High</td>
<td>Issues affecting individual or multiple users with no workaround available</td>
<td>1 hour</td>
<td>1 Business Day</td>
</tr>
<tr>
<td>Medium</td>
<td>Default priority assigned to all tickets.&lt;br&gt;Issues affecting multiple users with workaround available</td>
<td>1 Business Day</td>
<td>3 Business Days</td>
</tr>
<tr>
<td>Low</td>
<td>Issues affecting individual users with workaround available</td>
<td>2 Business Days</td>
<td>5 Business Days</td>
</tr>
</tbody>
</table>
WashU IT Service Owners work with customers to establish service fulfillment targets for each service request that comprise the Service Features listed in this document.

The following table lists the service fulfillment target for each approved service request:

<table>
<thead>
<tr>
<th>Service Request</th>
<th>Fulfillment Target</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Private Cloud Premier and Essential</strong></td>
<td></td>
</tr>
<tr>
<td>New Standard VM</td>
<td>3 Business Days</td>
</tr>
<tr>
<td>Standard VM Capacity Adjustments</td>
<td>3 Business Days</td>
</tr>
<tr>
<td><strong>Web Platform Management</strong></td>
<td></td>
</tr>
<tr>
<td>Standard Dedicated Web Host Server</td>
<td>5 Business Days</td>
</tr>
<tr>
<td>Standard Web Site on Shared Server</td>
<td>1 Business Day</td>
</tr>
<tr>
<td>Standard Web Site on WHaaS Platform</td>
<td>1 Business Day</td>
</tr>
<tr>
<td><strong>Managed Database</strong></td>
<td></td>
</tr>
<tr>
<td>Standard Dedicated Database Server</td>
<td>5 Business Days</td>
</tr>
<tr>
<td>Standard Database on Shared Server</td>
<td>1 Business Day</td>
</tr>
<tr>
<td>Standard Database on DBaaS Platform</td>
<td>1 Business Day</td>
</tr>
<tr>
<td><strong>Public Cloud Enablement</strong></td>
<td></td>
</tr>
<tr>
<td>Public Cloud New Account</td>
<td>Based on customer request</td>
</tr>
<tr>
<td><strong>Data Center Hosting</strong></td>
<td></td>
</tr>
<tr>
<td>Full Rack</td>
<td>Based on customer request</td>
</tr>
<tr>
<td>Multi-Tenant Server Cabinet – Charge by RU Space</td>
<td>Based on customer request</td>
</tr>
<tr>
<td><strong>Raw Storage</strong></td>
<td></td>
</tr>
<tr>
<td>New LUN</td>
<td>Based on customer request</td>
</tr>
<tr>
<td>LUN Adjustment</td>
<td>Based on customer request</td>
</tr>
</tbody>
</table>
Service Availability

The Infrastructure Hosting Service operates 24x7, except during scheduled system maintenance. While unscheduled outages are possible, customers should expect at least 99.5% availability.

Service Continuity

The Infrastructure Hosting Service is designed for resilient operations and is hosted at primary and secondary data centers. Additional options are available in the Private Cloud Premier and Essential service offerings to minimize the amount of time required for returning to service availability for individual customers in the event of a primary data center disaster resulting in a fail-over to the secondary data center.

1. **Disaster Recovery** – Disaster Recovery is defined by two duration metrics, Recovery Time Objective (RTO) and Recovery Point Objective (RPO). RTO is the length of time a business can tolerate without service availability and defines a target for restoring a service to functionality. RPO refers to the amount of data loss a business can accept before being critically impaired and defines a target frequency for data backups and restoration window. Four Disaster Recovery options exist with the Base option automatically selected. Selecting a different option requires selecting a Backup Retention support option, improves the return to service availability, and reduces the data loss caused by the disaster.

<table>
<thead>
<tr>
<th>Disaster Recovery</th>
<th>RTO</th>
<th>RPO*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Option 1</td>
<td>4 hours</td>
<td>15 minutes</td>
</tr>
<tr>
<td>Option 2</td>
<td>48 hours</td>
<td>30 minutes</td>
</tr>
<tr>
<td>Option 3</td>
<td>45 days</td>
<td>24 hours</td>
</tr>
<tr>
<td>Base</td>
<td>Best Effort</td>
<td>None</td>
</tr>
</tbody>
</table>

2. **Backup Retention** – Backup Retention refers to the amount of time daily and monthly data backups are kept. Three options exist for this support item. A selectable out of region option is also available. For customers who select the out of region option, every month, one set of monthly backups are rotated out of region for regional disaster recovery protection. The remaining monthly backups and daily backups are stored locally in two St. Louis data centers.

<table>
<thead>
<tr>
<th>Option</th>
<th>Daily Retention</th>
<th>Monthly Retention</th>
</tr>
</thead>
<tbody>
<tr>
<td>Option 1</td>
<td>90 days</td>
<td>18 months</td>
</tr>
<tr>
<td>Option 2</td>
<td>60 days</td>
<td>6 months</td>
</tr>
<tr>
<td>Option 3</td>
<td>30 days</td>
<td>1 month</td>
</tr>
<tr>
<td>Opt-out</td>
<td>None</td>
<td>None</td>
</tr>
</tbody>
</table>

**Extended Backup Retention** – Extended Backup Retention refers to an additional retention requirement beyond the standard Backup Retention option. This customization requires working with the WashU IT team to develop scope and implementation specifics to meet compliance requirements. As with standard Backup Retention, a selectable out of region option is available and follows the same procedures.

Business Continuity

WashU IT is responsible for maintaining service continuity while the customer is responsible for developing and maintaining a business continuity plan for addressing unplanned service outages.
Change Management and Service Reviews

WashU IT has established a change management and service review process to ensure changes and enhancements of services and systems are done in a controlled manner to prevent unintended consequences and to confirm that changes and updates are implemented according to an approved framework.

**Change Management**

The complete change management process is documented in the WashU IT Change Management Charter, but the following highlights from this charter are worth noting.

Changes and updates to systems and services fall into one of three general categories:

1) **Standard** – changes and updates that are considered routine, well documented and of low risk to the University.

2) **Normal** – changes and updates that require scheduled review and approval by the Change Advisory Board (CAB) to ensure mitigation of risk to the University.

3) **Emergency** – changes and updates that cannot wait until the next scheduled CAB meeting for approval and must be reviewed by the CAB to address a CRITICAL incident or upgrade.

All non-standard changes will be communicated to customer according to established customer communication channels. All customer requests for a non-standard change or upgrade to a WashU IT supported service or system must follow the WashU IT change management process.

**General Maintenance Windows**

Non-standard changes approved by the CAB will occur during the following maintenance windows:

- M – Sat: 6pm – 6am
- Sunday: Anytime of the Day

**Infrastructure Hosting Service Maintenance and Patch Windows**

**Regularly Scheduled Maintenance**

A monthly maintenance window is utilized when needed for minor/moderate service-impacting Infrastructure maintenance. If a maintenance window is scheduled to be utilized, impacted customers will be notified at least 5 business days in advance.

First Sunday of Month: 12am – 4am

**Regularly Scheduled Server Security Patching**

Three patch windows are available to provide flexibility to customer applications. The server will be rebooted following application of security patches. Notifications will be sent out at least 5 business days in advance if changes in this schedule occur. Should these windows not be appropriate to customer business requirements, WashU IT will provide the necessary patches through our Patching utilities; however, the customer is now responsible for applying the patches and adhering to Info Sec policies. General status reports outlining environment compliance are provided to Info Sec for all servers in the environment.

- Second Tuesday of Month: 6pm – 10pm
- First Sunday following Second Tuesday of Month: 12am – 4am
- Second Sunday following Second Tuesday of Month: 12am – 4am

**Emergency Maintenance and Security Patching**

Emergency maintenance is any maintenance that needs to be implemented immediately to prevent a services outage. Emergency Security Patching is any security patching involving mitigating an active exploit deemed too critical to wait for the monthly patch cycle. WashU IT will use the standard communication plan prior to any emergency maintenance or emergency security patching to alert impacted customers.
Service Reporting & Metrics

WashU IT will provide the customer with a quarterly report that documents key support and service metrics. Customers may request additional metrics and reporting schedules by contacting their CRM representative.

These metrics, specific to the Infrastructure Hosting Service, will be available:

<table>
<thead>
<tr>
<th>Metric</th>
<th>Target</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Service Uptime</td>
<td>99.5 %</td>
<td>Annually</td>
</tr>
<tr>
<td>Service Request On-time Fulfillment</td>
<td>95 %</td>
<td>Annually</td>
</tr>
<tr>
<td>Backup Success Rate</td>
<td>99 %</td>
<td>Annually</td>
</tr>
</tbody>
</table>

Review and Revision Timeline

WashU IT SLEs will be reviewed each year during the month of April. Revisions to these documents will be distributed to all customers by May 1st of each year. Customer feedback regarding changes to the SLEs must be submitted to their CRM representative by June 1st of each year. After mutual agreement is reached, the final updated SLEs will be posted to [http://it.wustl.edu/services](http://it.wustl.edu/services) by July 1st of each year.

Roles and Responsibilities

The following roles and responsibilities between WashU IT and the customer are called out to highlight the important partnership that must exist between WashU IT as the service provider and WashU departments as the consumers of existing services and systems. Both parties play an important role in ensuring the overall health of services.

**WashU IT Responsibilities**

- Provide qualified support personnel to support WashU IT services and systems.
- Document specific features and warranties of each service provided by WashU IT.
- Produce metrics that demonstrate the health of each service.
- Provide customers with appropriate communication and governance channels to effect change to WashU IT services and systems in a way that furthers the University’s mission without posing significant risks.

**Customers Responsibilities**

- Provide an ongoing point of contact within their department with which WashU IT can interface to ensure support and service requests are addressed in a timely manner.
- Make support and service requests as outlined in this document.
- Use WashU IT established communication and governance channels to request changes to existing services and systems.
Infrastructure Hosting Service  Service Level Expectations

Service Offerings

Private Cloud Premier

WashU IT Cloud Premier provides turnkey server and storage environments with optional disaster recovery. WashU IT staff are responsible for Operating System installation, support and configuration including the installation of security patches, and antivirus software. This fully managed service allows unit IT and research staff to focus on mission specific services such as application management and performing data analysis.

Service Highlights

Included:
- Virtual server
- OS and Patch Management of Windows and RHEL servers
- Remote console access (RDP, SSH)
- Local administrative privileges
- Controlled Access via Multiple Network Options
- High Availability – Infrastructure
- Virtual Machine (VM) Image Backup
- Server Disaster Recovery

Optional:
- Load Balancing
- Basic Application Service Monitoring
- Physical servers available for exception workloads that do not support virtualization

Excluded:
- Application installation, configuration, management and support
- Custom Application Service Monitoring
- In-place OS upgrades
- Application Disaster Recovery planning
- Hypervisor console access

Private Cloud Essential

WashU IT Cloud Essential provides server and storage environments with optional disaster recovery. Customers manage, configure, and support operating systems in each virtual server instance.

Service Highlights

Included:
- Virtual server
- Remote console access (RDP, SSH)
- Local administrative privileges
- Controlled Access via Multiple Network Options
- High Availability – Infrastructure

Optional:
- Virtual Machine (VM) Image Backup (tiered retention)
- Ad-hoc requests for VM Snapshots
- Server Disaster Recovery

Excluded:
- OS and Patch Management
- Application installation, configuration, management and support
- Custom Application Service Monitoring
- In-place OS upgrades
- Application Disaster Recovery planning

Public Cloud Enablement

Public Cloud Enablement provides access to University negotiated, policy-compliant contracts with key public cloud vendors. This service currently provides account management, billing support, service discounts, and executed HIPAA BAAs for Microsoft Azure and Amazon Web Services.

Service Highlights

Included:
- University negotiated, policy compliant contracts with select public cloud vendors
- Account Management
- University Billing

Optional:
- BAA (select vendors)
- Service Discounts

Excluded:
- OS Management
- Design, Implementation, and Utilization Consulting Web application support
Web Platform Management offers managed web site hosting in shared or dedicated environments to meet unique customer needs. This results in increased reliability and agility through reduced environment complexity.

The Managed Web Hosting service has three features: Managed Web Hosting as a Service, Shared Web Hosting, and Dedicated Web Hosting. These three features have core attributes common to all features and specific attributes differentiated based on required capabilities and platform functionality. Consulting is available to assist customers in selecting web-hosting solutions that meet their requirements.

Core Service Highlights
These attributes are common across all three features and are provided by WashU IT

**Included:**
- Common Attributes – these attributes provided by WashU IT
- Web site content management access
- Nightly web site backups
- Web site restores
- Selected platform administration tasks (e.g., alert configuration, firewall configuration, service configuration) via support tickets
- Service uptime monitoring
- Service outage alerting
- Web site health and uptime monitoring
- Key web site performance metrics and notification

**Excluded:**
- Web site design and development
- Performance tuning
- Web application support
- Detailed application or service monitoring
- Custom scorecard/metrics reporting
- Custom backup retention
- Vendor management for non-hardware, non-operating system components

***Managed WHaaS***
Provided by Public Cloud Vendor:
Allows customers to utilize web-hosting capabilities from public cloud providers. The Managed WHaaS feature allows customers to scale based on both performance and storage utilization while shifting the burden of platform maintenance to the cloud providers.

**Included:**
- Azure or AWS web sites
- 24/7 Availability
- Platform patching and upgrades

**Optional**
- High Availability

**Excluded:**
- Account administrator access

***Shared Web Hosting***
Provided by WashU IT: Allows customers to utilize web site hosting capabilities supported by Washington University IT. The Shared Web Hosting feature allows customers to utilize common web hosting platforms without the need to manage the web site platform itself.

**Included:**
- Microsoft IIS or Apache httpd/Tomcat web sites hosted on shared instances
- Additional non-production web site instance for testing
- Support for common application runtimes (.NET Framework, Java, JavaScript, Perl, PHP, Python)
- Platform patching and upgrades
- 24/7 availability (excluding scheduled maintenance)
- Load Balancing

**Optional**
- Import existing web sites

**Excluded:**
- Non - Microsoft IIS or Apache httpd/Tomcat web sites
- Specialized platform (e.g., Dynamics CRM) web sites
- System administrator access

***Dedicated Web Hosting***
Provided by WashU IT: Provides managed web platforms while offering the greatest level of customer control. Washington University IT will manage the web-hosting platform in consultation with the customer.

**Included:**
- WashU IT Cloud Premier workload instance
- Microsoft IIS or Apache httpd/Tomcat web site hosting platforms
- System administrator access
- Off-site retention of backups (Optional)
- Platform lifecycle, patching, upgrades with schedule management
- Platform resource specifications via support tickets (may incur additional fees)
- 24/7 availability (excluding scheduled maintenance)

**Optional**
- Load Balancing

**Excluded:**
- Non - Microsoft IIS or Apache httpd/Tomcat web hosting platforms
Managed Database

Managed Database offers managed database hosting in shared or dedicated environments to meet unique customer needs. This results in increased reliability and agility through reduced environment complexity.

The Managed Database service has three features: Managed Database as a Service, Shared Database, and Dedicated Database. These three features have core attributes common to all features and specific attributes differentiated based on required capabilities and platform functionality. Consulting is available to assist customers in selecting database solutions that meet their requirements.

Core Service Highlights

These attributes are common across all three features and provided by WashU IT

<table>
<thead>
<tr>
<th>Included</th>
<th>Excluded</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Common Attributes – these attributes provided by WashU IT</td>
<td>• Database design</td>
</tr>
<tr>
<td>• Database Owner access</td>
<td>• Performance tuning</td>
</tr>
<tr>
<td>• Nightly database backups</td>
<td>• Detailed application or service monitoring</td>
</tr>
<tr>
<td>• Point-in-time database restores</td>
<td>• Custom scorecard/metrics reporting</td>
</tr>
<tr>
<td>• Selected platform administration tasks (e.g., alert configuration, firewall configuration, service configuration) via support tickets</td>
<td>• Custom backup retention</td>
</tr>
<tr>
<td>• Service uptime monitoring</td>
<td>• Vendor management for non-hardware, non-operating system components</td>
</tr>
<tr>
<td>• Service outage alerting</td>
<td></td>
</tr>
<tr>
<td>• Database health and uptime monitoring</td>
<td></td>
</tr>
<tr>
<td>• Key database performance metrics and notification</td>
<td></td>
</tr>
<tr>
<td>• Backup and maintenance plan setup, scheduling, and monitoring</td>
<td></td>
</tr>
<tr>
<td>• External database linking available on a case-by-case basis and when supported by the platform</td>
<td></td>
</tr>
</tbody>
</table>

Managed DBaaS

Provided by Public Cloud Vendor:

Allows customers to utilize database capabilities from public cloud providers. The Managed DBaaS feature allows customers to scale based on both performance and storage utilization while shifting the burden of platform maintenance to the cloud providers.

Included:
- Azure SQL databases
- 24/7 Availability
- Platform patching and upgrades

Optional
- High Availability

Excluded:
- Database platforms not listed above
- System administrator (sa) access

Shared Database

Provided by WashU IT: Allows customers to utilize enterprise-class database capabilities hosted by Washington University IT. The Shared Database feature allows customers to utilize common database platforms without the need to manage the database platform itself

Included:
- Microsoft SQL Server, MySQL (via MariaDB or MySQL), or FileMaker databases hosted on shared instances
- Additional non-production database instance for testing
- Enterprise Database Features (Microsoft SQL Server, MariaDB)
- Platform patching and upgrades
- 24/7 availability (excluding scheduled maintenance)
- High Availability (Microsoft SQL Server and MariaDB only)

Optional
- Import existing database

Excluded:
- Database platforms not listed above
- Specialized platform (e.g., Dynamics CRM) databases
- System administrator (sa) access

Dedicated Database

Provided by WashU IT: Provides managed databases while offering the greatest level of customer control. Washington University IT will manage the database platform in consultation with the customer.

Included:
- WashU IT Cloud Premier workload instance
- Microsoft SQL Server, MySQL (via MariaDB or MySQL) or PostgreSQL databases
- System administrator (“sa”) access
- Off-site retention of backups (Optional)
- Platform lifecycle, patching, upgrades with schedule management
- Platform resource specifications via support tickets (may incur additional fees)
- 24/7 availability (excluding scheduled maintenance)

Optional
- High Availability (Microsoft SQL Server and MariaDB only)
- Enterprise Database Features (Microsoft SQL Server and MariaDB only)

Excluded:
- Database platforms not listed above
Data Center Hosting

Data Center Hosting provides secure, reliable, and monitored data center facilities to house customer managed servers and storage environments in WashU IT data centers.

Service Highlights

Included:
- Rack Space in secure data center
- Environmentally Controlled Space
- Access Controlled Facility
- Uninterruptable Power Supply
- Generator
- Redundant Power Distribution Units
- Dual Power Feeds Each Rack
- Network Connectivity (I1 and I2)
- Fire Suppression
- 24x7 Monitored Physical Facility
- 24x7 Recorded CCTV

Special Considerations
- Multi-Tenant server cabinet customers
  Four escorted data center visits per year
  Included in monthly rate

Excluded:
- OS Management
- Caged areas
- Server rails
- Server hardware installation
- Server hardware monitoring and troubleshooting
- Server Cabinet PDU outlet management

Raw Storage

Raw Storage provides general-purpose storage available for use by data center hosting customers.

Service Highlights

Included:
- LUN(s) on general purpose storage array
- Connectivity - Fibre Channel
- Optional - Replication to second data center

Excluded:
- Merging FC fabrics