Enterprise Management Service ("EMS") Statement of Work

PowerSchool
Student Information System

Contents

Introduction

The purpose of this Statement of Work is to outline and specify the services and support provided by the Technical Solutions Group ("TSG") in the fulfillment of the Enterprise Management Service ("EMS") and address the roles and responsibilities of TSG and the school, district, or other entity subscribing to EMS ("Client").

Often confused with the PowerSchool Technical Support department, TSG is actually a services organization within PowerSchool tasked with offering self-hosted PowerSchool customers with a wide variety of technical products and services that combine to create solutions to varied information technology and software administration needs. TSG is staffed with experienced, educated, and industry-credentialed Systems Engineers located in nine states across two countries covering six different time zones.

EMS is a comprehensive solution that manages and maintains the Client's self-hosted PowerSchool environment in the following areas:

1. Environment Monitoring

- Real-time monitoring of server hardware for performance and faulty hardware
- Real-time monitoring of the PowerSchool and Oracle application logs
- Real-time monitoring of Microsoft Windows® operating system logs and resource utilization
- Real-time monitoring of virtualization hosts performance and utilization
- Monthly reporting of status and trending of performance, hard drive consumption, server uptime, and frequency of incidents and transactions

2. Software Update Service

- Choice of automated or on-demand distribution and installation of **all** PowerSchool version updates and upgrades, state and provincial reporting updates, and Oracle updates and upgrades
- Choice of automated or on-demand installation of **all** SIF agent updates and State Messaging Plugin updates
- Choice of automated or on-demand installation of **all** Microsoft Windows® operating system-related updates and upgrades
- Choice of automated or on-demand distribution and installation of **all** server-related third party software updates

3. Offsite Data Backup and Disaster Recovery

- Automated nightly compression, encryption, and transfer of PowerSchool and Oracle files to a remote location for 365 days of retention (or longer by negotiation)
- In the case of a disaster, temporary hosting of the PowerSchool application for thirty (30) days on the TSG cloud platform
- Restoration of PowerSchool in the TSG temporary hosting environment within 24 hours

4. Data and Server Migrations and Restorations

- Same-day restoration of corrupted environment using most recent backup
- Completion of planned server migrations to new physical or virtual hardware
- Choice of automated or on-demand refreshes of data to a non-production environment with no limit to the number of refreshes

5. Infrastructure Support

- Pro-active response and intervention to performance situations identified by our monitoring protocols
- Telephone, email, and Self Service Port escalations <u>directly</u> to TSG (Monday – Friday from 4:00 AM – 9:00 PM and Saturdays and Sundays from 7:00 AM – 6:00 PM Pacific Time) regarding any concern involving the PowerSchool infrastructure components such as hardware, virtualization, third party software configurations, and general performance

6. Non-Production ("Sandbox") Coverage
- Installation and configuration of PowerSchool and Oracle on a non-production server (if needed)
- Enrollment of a single-server non-production instance of PowerSchool into monitoring, support, and other elements of EMS
- Unlimited number of data refreshes from the production instance

7. Quarterly Security Audits
- Review of SSL use and capability
- Review of server, PowerSchool, and Oracle-related password length, complexity, and refresh frequency
- Review of Windows operating system security patch version and history
- Review of PowerSchool and Oracle version

- Comprehensive evaluation and reporting of the level of mitigation to vulnerabilities

8. SSL Certificate Administration

- SSL deployment readiness review
- Provide district personnel with firewall configuration parameters to ensure proper PowerSchool SSL ports are configured
- Create Certificate Signing Request(s) and matching RSA Key and generate SSL Certificate
- Apply SSL Certificate to PowerSchool production environment
- Reconfigure PowerSchool and ReportWorks network settings and Global Server Settings to utilize SSL configurations
- Create HTTP to HTTPS redirect for PowerSchool access
- Reconfigure Load Balancer for PowerSchool related Virtual Services to utilize TCP SSL ports (if needed)

9. Oracle Performance Tuning and Optimization

- Oracle Component Review
- Review of third party backup software strategy and configuration
- Oracle Table and Index Optimization
- PowerSchool Oracle Database Patchset check
- Review PowerSchool Oracle Database Objects
- Evaluate RMAN and Datapump backup configuration and validate current backups
- Review usage for Tuning opportunities

10. Unified Classroom

- Prepare PowerSchool environment for Unified Classroom configuration
- Perform Unified Classroom initial sync
- Configure site-to-site VPN tunnel
- Provide monitoring of VPN connection
- Apply PowerSchool version updates during Unified Classroom maintenance window

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Environment Monitoring

TSG provides 24/7/365 real-time monitoring of the PowerSchool environment resulting in ongoing oversight of essential PowerSchool components including the hardware, Microsoft Windows® environment, and other assets to ensure all elements are operating in a fully optimized state. The monitoring is passively configured so as to eliminate any potential influence that the act of monitoring might otherwise have on the performance of the individual components or their collective contribution to the operation of the environment. TSG specifically monitors the following components to minimize service disruptions and maintain a high level of availability and productivity:

Server Hardware
▪ Physical disk drive status and monitoring for faulty hardware
▪ Hardware RAID controller status and monitoring for faulty hardware
▪ Network Interface Card status and monitoring for faulty hardware
▪ Power supply status and monitoring for faulty hardware
▪ Physical RAM status and monitoring for faulty hardware
Microsoft Windows®
▪ Microsoft Windows® Server Event Log errors for PowerSchool services
▪ Microsoft Windows® disk storage
▪ Microsoft Windows® Updates
▪ CPU and memory utilization
▪ Disk I/O utilization
PowerSchool and Related Assets
▪ PowerSchool/PowerTeacher Network service status
▪ ReportWorks Network Service status
▪ Oracle Network Service(s) status
▪ PowerSchool Tomcat application logs
▪ Oracle application logs
▪ Oracle backup status
▪ PowerSchool website availability
***Virtualization Host**
▪ Network Interface Card status
▪ Hardware status
▪ Virtual Machine file storage status
▪ CPU and memory utilization
***Hardware Load Balancer**
▪ PowerSchool virtual service availability

Monitoring is provided only if the component exists within the environment and the Client opts to enroll it in the EMS package.

Each month, the Client will receive a report detailing the history, status, and trending of performance, hard drive consumption, server uptime, and the frequency of incidents and transactions TSG responded to and fulfilled.

1. TSG Responsibilities

- TSG will install monitoring software agents on each PowerSchool-related component that is covered under the EMS offering.
- TSG will be responsible for configuring the monitoring agents to alert TSG personnel in the event a monitoring alert is triggered.
- TSG will respond to all alerts within one (1) hour of its transmission during extended hours of EMS coverage 24 hours/day Monday through Thursday, Fridays Midnight – 9PM, Saturdays 4AM – 6PM, and Sundays 4AM - 6PM and 9PM to Midnight Pacific Time excluding joint US and Canadian holidays unless otherwise specified or negotiated.
- In the event a monitoring alert is triggered, TSG will open an EMS Support Case within PowerSource, make it visible to the designated primary point of contact for the Client, investigate the alert, and notify the Client of the problem and its intended time and nature of resolution.
- If the monitoring event is directly related to the PowerSchool or Oracle application, TSG will open a support case with PowerSchool Technical Support on the Client's behalf. The Client will then be responsible to work directly with the PowerSchool Technical Support department to rectify the issue.

2. Client Responsibilities

It will be the responsibility of the Client to ensure each of the following items are understood and addressed by the Client's staff:

- The Client will provide TSG with an infrastructure-level administrative account to perform the services listed within this agreement. This account can be disabled when services are not being delivered.
- The Client will provide TSG with naming conventions, TCP/IP parameters, and user accounts passwords associated with all support-related infrastructure components
- The Client will perform any firewall configurations to provide TSG with access necessary to perform the services listed within this agreement.
- The Client will provide TSG with updated documentation on any infrastructure-related configuration changes that occur during the EMS term, including additional applications, additional servers, network

protocol schemes, naming conventions, LAN/WAN diagrams, directory services, etc.

- The Client will contact the hardware manufacturer directly to rectify the need to replace any faulty hardware or related components.
- The Client will escalate any concerns regarding the components being monitored during extended hours of EMS coverage 24 hours/day Monday through Thursday, Fridays Midnight – 9PM, Saturdays 4AM – 6PM, and Sundays 4AM - 6PM and 9PM to Midnight Pacific Time excluding joint US and Canadian holidays unless otherwise specified or negotiated.
- The Client will work directly with PowerSchool Technical Support in the event that TSG determines that a potential issue (arising from the monitoring of PowerSchool and Oracle) is outside the scope of EMS.
- Client will install advanced tools made available by the manufacturer (Dell OpenManage Systems Management, Dell Server Administrator, HP System Management, etc). In their absence, hardware monitoring will utilize the system OS event logs.
- Client will be responsible for paying additional fees if the growth of the Client's enrollment or their needs extend beyond the scope of EMS.
- Client will ensure that the PowerSchool server(s) is/are running PowerSchool 9.x and Oracle 12 or later in order to participate in the Environment Monitoring service of EMS.

Software Update Service

As part of EMS, clients can take advantage of TSG's administration of the distribution of all elements of software fundamental to the operation of PowerSchool. This element of EMS provides remote services to install all subsequent PowerSchool version updates, all PowerSchool-related Oracle updates, all PowerSchool state and provincial reporting installers (commonly known as, "SRC updates"), Microsoft Windows® operating system updates, and applicable third party software updates, and provides the Client with the assurance that their PowerSchool environment is up to date on the latest versions. This service includes the following features:

- Choice of automated or on-demand distribution and installation of PowerSchool version updates
- Choice of automated or on-demand distribution and installation of PowerSchool state and provincial reporting installer updates
- Choice of automated or on-demand distribution and installation of PowerSchool-related Oracle updates
- Choice of automated or on-demand distribution and installation of Microsoft Windows® operating system updates
- Choice of automated or on-demand distribution and installation of SIF agent and State Messaging Plugin ("SMP") updates (If Applicable)
- Choice of automated or on-demand distribution and installation of VMware® ESX/ESXi updates (If Applicable)
- Choice of automated or on-demand distribution and installation of hardware load balancer firmware updates (If Applicable)
- Choice of automated or on-demand distribution and installation of server hardware firmware updates (If Applicable, when one or more physical servers is/are enrolled in EMS)
- Choice of automated or on-demand distribution and installation of Individual Graduation Planner ("IGP") and Incident Management ("IM") customizations. (South Carolina only)
  Note: Unified Classroom *requires* the latest version of PowerSchool. Therefore EMS clients using Unified Classroom must have PowerSchool version updates applied automatically during the Unified Classroom update schedule (often afterhours on Fridays). Opting out of the version updates is not possible as not updating will break the Unified Classroom functionality.

1. TSG Responsibilities
- For automated distribution and installation of updates, TSG will apply all relevant updates during the Software Update Service maintenance

window. The Software Update Service maintenance window will be used to apply updates and upgrades to the PowerSchool version release, PowerSchool state and provincial reporting code, Oracle, SIF agent and SMP assets, and any related third party software.

- TSG will apply all software updates to a TSG-provided offsite PowerSchool environment prior to applying any updates to the Client's PowerSchool environment to test the update processes.
- The Client will be notified via a PowerSource Tech Note as to the date when TSG will begin to apply the specific update to EMS Clients that have chosen automated distribution and installation of updates. Note that this date does not obligate TSG to perform all updates at that time, but rather, indicates when TSG will begin the deployment process for the EMS client community.

TSG will notify the EMS Technical Contact(s) via email within one (1) business day of the date that updates will be applied to the Client's environment during the Software Update Service maintenance window. TSG reserves the right to delay or otherwise cancel the deployment of specific versions if circumstances render such an action necessary. The Client will be notified of such a decision should it be made.

- Unless otherwise specified, TSG will apply the most current release of PowerSchool unless a desired release is indicated (subject to availability) within the PowerSchool Software request submitted by the Client.
- TSG will apply each PowerSchool and Oracle version release within five (5) business days of the release date during the PowerSchool Software Update Service maintenance window occurring Monday through Friday from 4:00 PM to 6:00 PM Local Client Time (excluding joint US and Canadian holidays) unless otherwise specified and communicated.
- Unless otherwise specified, TSG will apply the most current release of PowerSchool state and provincial reporting updates unless a desired release is indicated (subject to availability) in writing by the Client.
- TSG will apply each PowerSchool state and provincial reporting update within five (5) business days of the state and provincial reporting update release date during a Software Update Service maintenance window occurring Monday through Friday from 4:00 PM to 6:00 PM Local Client Time (excluding US holidays) unless otherwise specified and communicated.
- Unless otherwise specified, TSG will apply the most current release of the SIF agent and SMP as part of the Software Update Service unless a desired release is indicated (subject to availability) in writing by the Client. TSG's role in the administration of SIF shall be limited to the update of the .jar files of the SIF agent and the assets related to SMP.
- TSG will apply each SIF agent and/or SMP update within five (5) business days of their release date during a Software Update Service

maintenance window occurring Monday through Friday from 4:00 PM to 6:00 PM Local Client Time (excluding joint US and Candian holidays) unless otherwise specified and communicated.

- Unless otherwise specified, TSG will apply the most current or compliant server-related release as part of the Software Update Service unless a desired release is indicated (subject to availability) in writing by the Client.
- For the automated deployment of server updates, all applicable Microsoft Windows® operating system and third party software updates will be applied outside the PowerSchool Software Update maintenance window, and will be scheduled to occur monthly between 10:30 PM and 12:00 AM (midnight) Local Client Time in order to minimize downtime to the Client's PowerSchool user community.
- TSG will ensure that the PowerSchool application is in an available state (as indicated by the presence of a logon screen) once all relevant software updates have been applied.
- TSG will notify the EMS Technical Contact(s) via email once all applicable software updates have been applied and the PowerSchool Software Update Service maintenance window has been completed.
- TSG will notify the EMS Technical Contact(s) via email if issues arise during the upgrade that will prolong the PowerSchool Software Update Service maintenance window.
- TSG may create an administrative level account within PowerSchool named, "TSG" for testing purposes.

2. Client Responsibilities

It will be the responsibility of the Client to ensure each of the following items are understood and addressed by the Client.

- The Client is responsible for notifying TSG of their desire for Automated or On Demand distribution of software updates via the EMS Activation Checklist. Any changes in decision are to be communicated promptly to TSG.
- The Client will understand that TSG will change an Automated subscription to updates to On Demand in the event that two consecutive releases are refused by the Client for any reason.
- If choosing to not have updates applied automatically, the Client must submit a PowerSchool Software Update Service request on PowerSource for each and every update request covered by the Software Update Service.
- The most current release of the PowerSchool application will be installed as part of the Software Update Service unless a desired release is specified within the PowerSchool Software Update Service request submitted by the Client.

- The Client is to review all Release Notifications related to the version of PowerSchool being installed and fully understand the implications (benefits and impact on current operations) introduced as a result of the update. Questions or issues concerning the update's influence on the visibility to your data or the continued access to, or use of, customizations should be directed to the PowerSchool Technical Support department.
- The services included within the scope of this offering do not include any services related to the installation or configuration of any third party applications that have direct access to the PowerSchool and Oracle resources. Questions or issues concerning the configuration of other application configurations should be directed to the appropriate technical support department that is affiliated with the particular application in use.
- TSG is not affiliated with the PowerSchool Technical Support department and is unable to address any questions relating to the use or troubleshooting of functionality within the application as a result of a PowerSchool configuration or update performed by TSG. Clients with questions of this nature will be instructed to contact the PowerSchool Technical Support department.
- The installation or upgrade of PowerSchool and Oracle within the scope of this offering does not include any services related to modifications that may be needed to current custom pages to be compatible with the PowerSchool version being applied. Questions or needs concerning custom page compatibility and modifications should be directed to the Product Tailoring department **here**.
- The Software Update Service will likely require bringing the PowerSchool application and/or its environment components off line during the Software Update Service maintenance window to apply updates and restart services. It will be the responsibility of the Client to notify their users of the outage. Note: The EMS Technical Contact(s) will be notified via email within one (1) business day of the date that updates will be applied to the Client's environment during the Software Update Service maintenance window.
- During the Software Update Service maintenance window, the PowerSchool server(s) may require a restart. It will be the Client's responsibility to ensure no USB drives or other bootable devices are attached to the PowerSchool server(s) that can cause issues during the reboot process.
- TSG is not responsible for any PowerSchool version updates that fail due to third party applications or interfaces being run against the PowerSchool database that prohibit the update of the PowerSchool application.

- In the event a PowerSchool version update fails, TSG will reinstall the previous version of PowerSchool and Oracle and apply the last known good Oracle data pump file to repopulate the database.
- If the PowerSchool server(s) covered by the EMS agreement is/are configured as members of an Active Directory environment, the Domain User account used to logon to the EMS covered PowerSchool server(s) must belong to Local EMS covered PowerSchool server(s) Administrators Group.
- If the PowerSchool server(s) covered by the EMS agreement is/are configured as members of an Active Directory environment, the PowerSchool server(s) and the Domain Users must have the ability to run scripts within the Windows 2008 or 2012 R2 PowerShell.
- Clients that have selected automated distribution and installation of updates can choose to have Software Update Service components updated at any time by submitting a PowerSchool Software Update Service request on PowerSource.
- PowerSchool Software Update Service component updates do not include any services related to the initial installation, configuration or support of SIF agents or components.
- The PowerSchool server(s) must be running PowerSchool 10.x and Oracle 12 or later to participate in the Enterprise Management Service (EMS) Software Update Service.

Offsite Data Backup and Disaster Recovery

EMS provides clients with an automated backup of their PowerSchool and Oracle files and securely transfers them to a remote storage location provided by TSG. This backup consists of and is provided via the Oracle data pump utility, and is used to take a point-in-time snapshot of the database.

This capability provides the ability to recover the files needed to quickly restore a PowerSchool instance following an irretrievable loss of data. Clients may contact TSG to perform the restoration process. This service includes the following features:

- Automated backup of PowerSchool and Oracle files
- AES 256-bit double encryption of PowerSchool and Oracle files before they are transferred
- Automated secure transfer of data to a secured remote SAS70-certified data center employing state-of-the-art security
- Retention of each day's backup file for 1 year (365 days calendar days). Longer retention terms are available by negotiation.
- Storage Monitoring: PowerSchool Administrators will be notified of any alerts regarding the status of nightly backups and the health of the Client's backup files

EMS also provides clients with temporary hosting of the PowerSchool application and client's data for up to thirty (30) days. In the case of a disaster rendering the client's PowerSchool environment inaccessible, TSG will setup and configure a PowerSchool environment in TSG's cloud platform. TSG will import the client's last nightly off-site backup, or more recent Oracle data pump file if available, along with the other necessary files and data, to implement a temporary PowerSchool environment for client's use within 24 hours of notification that the client needs to invoke the disaster recovery service provided by the Enterprise Management Service.

1. TSG Responsibilities
- TSG will monitor the success of the native Oracle Recovery Manager (RMAN) jobs that are used to create local backup sets.
- TSG will utilize Oracle data pump export(s) to capture Oracle data that will be retained in the remote TSG facility for the Offsite Data Backup process.
- Oracle data pump export files will be compressed, encrypted, and uploaded to a remote TSG facility on a daily basis for the Offsite Data Backup process.

- The Student pictures folder and Custom folder will be compressed, encrypted, and uploaded to a remote TSG facility on a weekly basis for the Offsite Data Backup process.
- TSG will monitor the success of the compression, encryption, and uploading of files to the remote TSG facility for the Offsite Data Backup process.
- TSG will retain file(s) within the remote TSG facility for the Offsite Data Backup process for up to 365 days or other pre-negotiated period of time.
- In the event the Offsite Data Backup is unsuccessful, TSG will respond within one (1) hour to rectify the issue 24 hours/day Monday through Thursday, Fridays Midnight – 9PM, Saturdays 4AM – 6PM, and Sundays 4AM - 6PM and 9PM to Midnight Pacific Time excluding joint US and Canadian holidays unless otherwise specified or negotiated.
- In the event the offsite data needs to be applied, TSG will respond within one (1) hour to begin downloading the current or desired Oracle data pump file and Oracle data pump file24 hours/day Monday through Thursday, Fridays Midnight – 9PM, Saturdays 4AM – 6PM, and Sundays 4AM - 6PM and 9PM to Midnight Pacific Time excluding joint US and Canadian holidays unless otherwise specified or negotiated.
- In the event the offsite data needs to be applied, TSG will respond to the Client's request, download the current or desired Oracle data pump file, import the Oracle data pump file to the local Oracle instance of PowerSchool, and test access to local PowerSchool instance.
- In the event the disaster recovery service needs to be applied, TSG will respond to the Client's request and begin the implementation of the temporary PowerSchool environment in TSG's cloud platform. TSG will download the current or desired Oracle data pump file, import the Oracle data pump file to the temporary Oracle instance of PowerSchool, and test access to local PowerSchool instance. TSG will also copy the Pictures and Custom folders from the offsite backup to the temporary PowerSchool environment.
- TSG will complete the disaster recovery environment implementation within 24 hours of the client's request to invoke the disaster recovery service.
- The disaster recovery environment will not replicate the Client's environment and will be limited to a single database and single application server in TSG's cloud platform.
- The virtual machines for use in the disaster recovery environment will be sized to best meet the client's needs.

2. Client Responsibilities

It will be the responsibility of the Client to ensure each of the following items are understood and addressed by the Client.

- The Offsite Data Backup process will export an Oracle data pump file, compress, encrypt, and transfer a copy of the file on a nightly basis typically between 3:00 AM and 7:00 AM Local Client Time depending upon the potential for bandwidth constraints and other conflicts. The Client shall avoid scheduling infrastructure cloning, batch loading of data, or other processes impacting the availability of application and database assets or the state of data during this time.
- The Offsite Data Backup process will compress, encrypt, and transfer a copy of the Student pictures folder and Custom folder on a weekly basis between 3:00 AM and 7:00 AM Local Client Time. The Client shall avoid scheduling the loading or modification of photos, manipulation of custom objects, or other processes impacting the availability of these elements during this time.
- The Offsite Data Backup process will retain file(s) within the remote facility for up to 365 days. All Offsite Data Backup file(s) older than 365 days will be purged from TSG's systems unless otherwise negotiated.
- TSG is not responsible for the integrity of Oracle data within the Oracle data pump export(s) that are used for the Offsite Data Backup process.
- The schedule of the Offsite Data Backup process is determined by TSG and may not be modified in any way by the Client.
- In the event the offsite data backup needs to be applied, the Client will submit a request to **TSG** with the date the restoration is to be completed and the date of the desired Oracle data pump file to be used for the restore.
- In the event the Offsite Data Backup needs to be applied, the Client will identify a Primary Technical Contact that will work with TSG throughout the restoration process.
- The Client will open firewall ports necessary (port 443) for the use of the Offsite Data Backup process.
- The Client will ensure the database server is allowed access to the Internet on port 443.
- Client will be responsible for ensuring adequate bandwidth and reliable network connectivity are available.
- In the event the offsite data needs to be applied, TSG will restore the current or desired Oracle data pump file to the local instance of PowerSchool and test access to the local PowerSchool instance.
- All data restoration events will use the Oracle data pump file, which represents a point-in-time snapshot of the data.

- Services included with the Offsite Data Backup process do not include restoring data from Oracle redo logs or the Oracle Flash Recovery Area.
- The PowerSchool server(s) must be running PowerSchool 9.x and Oracle 12 or later to participate in the Enterprise Management Service (EMS) Offsite Data Backup and Disaster Recovery.
- The Client will make the necessary DNS changes to point the client's PowerSchool FQDN to the temporary PowerSchool application server's IP address which will be provided by TSG.
- The Client will be responsible to connect any third party software to the temporary PowerSchool database and verify connectivity.
- The Client will be responsible for providing a copy of the document attached file share if applicable and the SIF configuration and files if applicable.
- The use of the temporary PowerSchool hosting for disaster recovery will be limited to thirty (30) days unless otherwise negotiated.
- Client will be responsible for providing SMTP services for sending email from PowerSchool if needed.

Data and Server Migrations and Restorations

EMS includes the facilitation of data transfers in order to meet a variety of needs and circumstances. These include planned expansions of, or migrations to, new physical or virtual hardware, the population of data to a secondary instance, or the periodic transfer of data from a production environment to a test, training, or other non-production instance. In the event of an emergency, EMS also provides for the restoration of an instance corrupted by hardware failure or user error via the use of a backup datafile to be deployed in full rather than to recover specific elements of data.

1. TSG Responsibilities

- TSG will provide up an unlimited number of server migrations, data restorations, and data refreshes during the twelve (12)-month EMS term.
- Should a restoration event be invoked, TSG will respond to the Client's request within one (1) hour during TSG's extended business hours of EMS coverage 24 hours/day Monday through Thursday, Fridays Midnight – 9PM, Saturdays 4AM – 6PM, and Sundays 4AM - 6PM and 9PM to Midnight Pacific Time excluding joint US and Canadian holidays unless otherwise specified or negotiated.
- Should a restoration event be invoked, the event will be scheduled and performed as quickly as technically feasible during hours of EMS coverage, as established by TSG, unless off-hour services have been negotiated.
- Should an event unrelated to a data restoration be invoked, TSG will respond to the Client's request within one (1) hour during TSG's extended business hours for EMS coverage 24 hours/day Monday through Thursday, Fridays Midnight – 9PM, Saturdays 4AM – 6PM, and Sundays 4AM - 6PM and 9PM to Midnight Pacific Time excluding joint US and Canadian holidays unless otherwise specified or negotiated.
- Should a migration event be invoked, the event will be scheduled and performed during hours of EMS coverage, as established by TSG, using the standard two (2) business-day service window unless off-hour services have been negotiated.
- Should a data refresh event be invoked on-demand, the event will be scheduled and performed at a date and time of the Client's choosing according to TSG availability. Automated refresh events will be completed per the agreed-upon schedule.

2. Client Responsibilities

It will be the responsibility of the Client to ensure each of the following items are understood and addressed by the Client.

- The Client will submit requests for a data or server migration, or data restoration to **TSG** with the date and nature of the event being requested.
- The Client will identify a Primary Technical Contact that will work with TSG throughout the event.
- The Client will provide TSG with a Primary Technical Contact to assist with onsite tasks that require physical intervention into the event process.
- The Client will ensure the target environment meets all of the minimum system requirements for the relevant PowerSchool version release being applied.
- The Client will understand that data and server migration and restoration event processes will utilize the Oracle Data Pump utility and associated files to move and/or restore Oracle data.
- The Client will be responsible to test PowerSchool access and functionality once the data and server migration and restoration event has been completed. Should the Client encounter an inability to access the PowerSchool instance or believe that data may be missing, the Client will be responsible for contacting **TSG** within one (1) business day of the completion of the data and server migration and restoration event.
- The Client will understand that TSG shall not be held responsible for the introduction of any conflict into the Client's traditional use of the functionality provided by PowerSchool or the Client's own efforts.
- The client will understand that TSG makes no warranties against an updated version's influence on the visibility of data or the continued access to, or use of customizations. Questions should be directed to the PowerSchool Technical Support department.
- The Client will understand that data and server migration and restoration events do not include any services relating to the installation or configuration of SIF agents or components.

Infrastructure Support

TSG will provide remote support for the following infrastructure configurations as it **pertains to the operation of PowerSchool and its related components**. The items listed below shall exist and be configured in direct support of the Client's PowerSchool environment. The scope of EMS shall not extend to the provision of support for hardware, programs, and other Client assets not deployed for the specific benefit of PowerSchool.

Server Hardware Configurations
▪ Hardware disk subsystem configurations ▪ Server attached hardware peripheral configurations ▪ Direct attached SCSI/SAS storage devices
Microsoft Windows® Configurations
▪ Windows Server system settings ▪ Windows Server Event Log errors ▪ Windows Server network settings ▪ Windows Server services
***Virtualization Configurations**
▪ Virtual Machine configurations ▪ Host resource configurations ▪ Host management configurations
***SSL Accelerator (Load Balancer) Configurations**
▪ KEMP Technologies, F5 Networks BIG IP®, Cisco CSS configurations ▪ Virtual service configurations ▪ Configuration Management
SSL Configurations
▪ SSL / Application configurations ▪ Certificate renewals

Support will be provided only if the component is identified and included with the EMS package.

Note: All hardware replacement will be handled directly by the manufacturer. It is the Client's responsibility to contact the hardware manufacturer directly to rectify the need for replacement of any faulty hardware.

1. TSG Responsibilities

- In the event an support request is received, TSG will respond to the Client's request within one (1) hour during TSG's extended hours of EMS coverage 24 hours/day Monday through Thursday, Fridays Midnight – 9PM, Saturdays 4AM – 6PM, and Sundays 4AM - 6PM and 9PM to Midnight Pacific Time excluding joint US and Canadian holidays unless otherwise specified or negotiated.
- In the event a request for infrastructure support is received, TSG will open an Enterprise Management Service support case, make it visible to the designated primary point of contact for the Client, investigate the situation, and notify the Client of the status, assignment, and nature of disposition.
- TSG will notify the Client once the Enterprise Management Service support request issue has been rectified to the fullest extent of TSG's capability, expertise, and authority.

2. Client Responsibilities

It will be the responsibility of the Client to ensure each of the following items are understood and addressed by the Client.

- Only Client personnel listed as a PowerSchool Technical Contact may request support and services related to EMS.
- The Client will notify TSG of their infrastructure-related need or question via the three primary methods for requesting service or support as outlined in the **Contacting TSG** section.
- All support request tasks will be performed during TSG's extended business hours of EMS coverage 24 hours/day Monday through Thursday, Fridays Midnight – 9PM, Saturdays 4AM – 6PM, and Sundays 4AM - 6PM and 9PM to Midnight Pacific Time excluding joint US and Canadian holidays unless otherwise specified or negotiated.
- All services within the support offering are to be delivered remotely unless otherwise specified. Onsite support services are available at an additional cost.
- Support requests may require bringing the PowerSchool application and its environment components off line while troubleshooting a support incident.
- The Client will provide TSG with one or more infrastructure level administrative accounts to perform the support request.
- While TSG will make every effort to rectify the support request, TSG cannot guarantee a resolution for environments that were not originally integrated by TSG.
- The Client will notify TSG prior to making any changes to the configuration or characteristics to the environment that may have a

direct impact on the monitored infrastructure components. This would include the integration of additional servers, server repurposing, changes or updates involving network protocol schemes, naming conventions, LAN/WAN schemes, directory services, load balancing solutions, virtualization, or any software product updates. The Client shall provide TSG with documentation capturing the nature and extent of any modifications once the planned environmental modification has been coordinated with TSG.

- All hardware replacement will be handled directly by the manufacturer. It is the Client's responsibility to contact the hardware manufacturer to rectify any faulty hardware replacement.
- The support services listed within this document are for the support of the infrastructure specifically configured for, or utilized by, the PowerSchool application. It does not include support for aspects of the infrastructure utilized by Client assets other than PowerSchool.
- The Infrastructure Support services are not intended to replace the assistance provided by the PowerSchool Technical Support department. It is the Client's responsibility to contact the PowerSchool Technical Support department for support assistance directly related to the configuration or functionality of the PowerSchool and Oracle applications.
- The Client will be responsible for ensuring adequate Information Technology administrative staff is in place to provide support for normal day-to-day operations of the infrastructure that are not included with the EMS coverage. This includes the monitoring and maintenance of network performance, server infrastructure, infrastructure integrity, and system data protection and recovery.
- The Client will ensure compliance with all aspects of the minimum system requirements for the installed or planned version of the PowerSchool application.

Non-production ("Sandbox") Coverage

EMS includes the technical administration and support of a non-production instance of PowerSchool, and provides frequent refreshes of these "sandbox" environments with data from a pre-existing production instance. This is intended to encourage the testing of customizations and state reporting submissions, provide an environment to conduct teacher and staff training, and evaluate the implications of a new release of PowerSchool before committing to that release in a production environment. To facilitate this use, EMS includes the initial installation and configuration of the application and database, ongoing monitoring and support of the non-production environment, and Automated or On Demand refreshing of the data.

1. TSG Responsibilities

- TSG will provide up an unlimited number of data refreshes during the twelve (12) month EMS term.
- Should a manual request for a refresh event be invoked, TSG will respond to the Client's request within one (1) hour during TSG's extended business hours of EMS coverage 24 hours/day Monday through Thursday, Fridays Midnight – 9PM, Saturdays 4AM – 6PM, and Sundays 4AM - 6PM and 9PM to Midnight Pacific Time excluding joint US and Canadian holidays unless otherwise specified or negotiated.
- Should a refresh event be invoked, the event will be scheduled and performed as quickly as technically feasible during hours of EMS coverage, as established by TSG, unless off-hour services have been negotiated.
- Should an event unrelated to a data refresh be invoked, TSG will respond to the Client's request within one (1) hour during TSG's extended business hours for EMS coverage 24 hours/day Monday through Thursday, Fridays Midnight – 9PM, Saturdays 4AM – 6PM, and Sundays 4AM - 6PM and 9PM to Midnight Pacific Time excluding joint US and Canadian holidays unless otherwise specified or negotiated.
- Should a data refresh event be manually invoked, the event will be scheduled and performed at a date and time of the Client's choosing according to TSG availability. Automated refresh events will be completed per the agreed-upon schedule.
- In the event a request for infrastructure support is received, TSG will open an Enterprise Management Service support case, make it visible to the designated primary point of contact for the Client, investigate the situation, and notify the Client of the status, assignment, and nature of disposition.

- TSG will notify the Client once the EMS support request issue has been rectified to the fullest extent of TSG's capability, expertise, and authority.

2. Client Responsibilities

It will be the responsibility of the Client to ensure each of the following items are understood and addressed by the Client.

- The Client will submit requests for a data refresh to **TSG** with the date and nature of the event being requested.
- The Client will identify a Primary Technical Contact that will work with TSG throughout the event.
- The Client will provide TSG with a Primary Technical Contact to assist with onsite tasks that require physical intervention into the event process.
- The Client will ensure the target environment sufficiently meets the resource levels necessary, as per TSG's direction, in order to enroll the instance into EMS coverage.
- The Client will understand that data refresh event processes will utilize the Oracle Data Pump utility and associated files to move and/or restore Oracle data.
- In the event of a disparity of versioning, the Client will understand that TSG will attempt to refresh the non-production environment with production data to the extent technically possible, but that doing so could impair the ability of PowerSchool to launch in the event that the PowerSchool version (i.e. PowerSchool 9 or PowerSchool 10) is different.
- The Client will be responsible to test PowerSchool access and functionality once the data refresh event has been completed. Should the Client encounter an inability to access the PowerSchool instance or believe that data may be missing, the Client will be responsible for contacting **TSG** within one (1) business day of the completion of the data refresh event.
- The Client will understand that TSG shall not be held responsible for the introduction of any conflict into the Client's traditional use of the functionality provided by PowerSchool or the Client's own efforts.
- The Client will understand that TSG makes no warranties against an updated version's influence on the visibility of data or the continued access to, or use of customizations. Questions should be directed to the PowerSchool Technical Support department.
- The Client will understand that data refresh events do not include any services relating to the installation or configuration of SIF agents or components.

- Only Client personnel listed as a PowerSchool Technical Contact may request support and services related to EMS.
- The Client will notify TSG of their infrastructure-related need or question via the three primary methods for requesting service or support as outlined in the **Contacting TSG** section.
- All support request tasks will be performed during TSG's extended business hours of EMS coverage 24 hours/day Monday through Thursday, Fridays Midnight – 9PM, Saturdays 4AM – 6PM, and Sundays 4AM - 6PM and 9PM to Midnight Pacific Time excluding joint US and Canadian holidays unless otherwise specified or negotiated.
- All services within the support offering are to be delivered remotely unless otherwise specified. Onsite support services are available at an additional cost.
- The Client will understand that non-production environments are not included in TSG environment monitoring routines nor is data backed up nightly unless otherwise negotiated.
- Support requests may require bringing the PowerSchool application and its environment components off line while troubleshooting a support incident.
- The Client will provide TSG with one or more infrastructure level administrative accounts to perform the support request.
- While TSG will make every effort to rectify the support request, TSG cannot guarantee a resolution for environments that were not originally integrated by TSG.
- The Client will notify TSG prior to making any changes to the configuration or characteristics to the environment that may have a direct impact on the monitored infrastructure components. This would include the integration of additional servers, server repurposing, changes or updates involving network protocol schemes, naming conventions, LAN/WAN schemes, directory services, load balancing solutions, virtualization, or any software product updates. The Client shall provide TSG with documentation capturing the nature and extent of any modifications once the planned environmental modification has been coordinated with TSG.
- All hardware replacement will be handled directly by the manufacturer. It is the Client's responsibility to contact the hardware manufacturer to rectify any faulty hardware replacement.
- The support services listed within this document are for the support of the infrastructure specifically configured for, or utilized by, the PowerSchool application. It does not include support for aspects of the infrastructure utilized by Client assets other than PowerSchool.
- The Infrastructure Support services are not intended to replace the assistance provided by the PowerSchool Technical Support department. It is the Client's responsibility to contact the PowerSchool

Technical Support department for support assistance directly related to the configuration or functionality of the PowerSchool and Oracle applications.

- The Client will be responsible for ensuring adequate Information Technology administrative staff is in place to provide support for normal day-to-day operations of the infrastructure that are not included with the EMS coverage. This includes the monitoring and maintenance of network performance, server infrastructure, infrastructure integrity, and system data protection and recovery.
- The Client will ensure compliance with all aspects of the minimum system requirements necessary for the operation of the installed or planned version of the PowerSchool application.

Security Audits

To better assist PowerSchool customers in the safeguarding and stewardship of vital assets and sensitive data, EMS includes the periodic review and evaluation of a number of components critical to ensuring a secure ecosystem. Subsequent to the review is a capture of the existence and status of these components (SSL, password length/complexity and age, operating system and PowerSchool versioning, etc.) and an assessment of their capabilities to mitigate threats to the environment.

1. TSG Responsibilities

- TSG will capture the existence, status, and condition of several pre-defined components of a secure environment.
- TSG will determine the extent to which these components meet TSG-recommended and industry-accepted best practices.
- TSG will provide a written evaluation on a quarterly basis to the Client's designated primary points of contact. The evaluation shall assess each component individually and its contribution to a secure environment.
- TSG will make recommendations as to how to improve the overall and individual values/scores ("grades") in written narrative.
- TSG will evaluate the degree to which the components have improved or worsened in the subsequent audit and evaluation.
- Upon request and subject to staffing availability, TSG will offer additional consulting or elaboration to supplement the written evaluation.
- TSG will perform the aforementioned tasks during TSG's extended business hours of EMS coverage 24 hours/day Monday through Thursday, Fridays Midnight – 9PM, Saturdays 4AM – 6PM, and Sundays 4AM - 6PM and 9PM to Midnight Pacific Time excluding joint US and Canadian holidays unless otherwise specified or negotiated.

2. Client Responsibilities

It will be the responsibility of the Client to ensure each of the following items are understood and addressed by the Client.

- The Client will identify a Primary Technical Contact that will be available to work with TSG during the audit as appropriate.
- The Client will provide TSG with a Primary Technical Contact to assist with onsite tasks that require physical intervention into the audit.

- The Client will ensure the target environment is accessible to TSG during the audit period.
- The Client will be responsible to make any changes recommended by TSG and agreed to by the Client's staff or management.
- The Client will understand that TSG shall not be held responsible in any way for the implications of the audit's ability or inability to adequately determine and assess the capabilities of a component to help secure the environment.
- The Client will understand that TSG makes no warranties against suggested changes to the environment.

SSL Certificate Administration

At the onset of the first EMS term, TSG staff will review SSL / TLS use and capability, procure and provision a Certificate Authority (CA) issued TLS 1.x certificate that utilizes a 2048-bit RSA key with SHA-256 signature for the PowerSchool production environment if needed, and configure a SSL / TLS certificate for the client's PowerSchool production instance. TSG staff will also facilitate the integration into client instance of PowerSchool and ongoing administration throughout three-year term.

1. TSG Responsibilities

- TSG will review of the intended deployment including PowerSchool server(s) readiness, network topology, and project related deliverables and schedules.
- TSG will Provide district personnel with firewall configuration parameters to ensure proper PowerSchool SSL ports are configured.
- TSG will create the Certificate Signing Request(s) and matching RSA Key and generate SSL Certificate and provide the district with CSR, RSA Key and password, Intermediate Certificates, and SSL Certificate for the PowerSchool instance.
- TSG will Import and apply the SSL Certificate, RSA Key, and Intermediate Certificates to PowerSchool Digital Certificate Management or Load Balancer.
- TSG will reconfigure PowerSchool and ReportWorks Network settings and PowerSchool Global Server settings to utilize SSL configurations.
- TSG will create HTTP to HTTPS redirect for PowerSchool access
- TSG will Reconfigure PowerSchool related Virtual Services to utilize TCP SSL ports on a load balancer (if needed).
- TSG will perform the aforementioned tasks during TSG's extended business hours of EMS coverage 24 hours/day Monday through Thursday, Fridays Midnight – 9PM, Saturdays 4AM – 6PM, and Sundays 4AM - 6PM and 9PM to Midnight Pacific Time excluding joint US and Canadian holidays unless otherwise specified or negotiated.

2. Client Responsibilities

It will be the responsibility of the Client to ensure each of the following items are understood and addressed by the Client.

- Client will provide TSG with a designated representative to assist with activities that would require physical interaction with supported components.

- Provide TSG with remote access to any and all servers necessary to perform the Oracle Performance Tuning and Optimization.
- Provide TSG with administrative accounts used to assess infrastructure components.
- The Client will be responsible to make any changes recommended by TSG and agreed to by the Client's staff or management.
- The Client will understand that TSG makes no warranties against suggested changes to the environment.

Oracle Performance Tuning and Optimization

To better assist EMS clients with the management of PowerSchool, the Enterprise Management Service includes Oracle Performance Tuning and Optimization to review and optimize the PowerSchool database and database performance.

1. TSG Responsibilities

- TSG will perform a review of all the Oracle components.
- TSG will review any third party backup software strategy and configuration.
- TSG will review the Oracle Table and Index Optimization
- TSG will perform a check of the PowerSchool Oracle Database Patchset
- TSG will review the PowerSchool Oracle Database Objects and correct any invalid objects.
- TSG will Evaluate RMAN and Datapump backup configuration and validate current backups.
- TSG will review PowerSchool and Oracle for usage for Tuning opportunities
- TSG will perform the aforementioned tasks during TSG's extended business hours of EMS coverage Monday through Friday from 4:00 AM to 9:00 PM Pacific Time and Saturdays and Sundays from 7:00 AM to 6:00 PM Pacific Time excluding US holidays.

2. Client Responsibilities

It will be the responsibility of the Client to ensure each of the following items are understood and addressed by the Client.

- The Client will identify a Primary Technical Contact that will be available to work with TSG during the review as appropriate.
- The Client will provide TSG with remote access to any and all servers necessary to perform the Oracle Performance Tuning and Optimization.
- The Client will provide TSG with administrative accounts used to assess infrastructure components.
- The Client will be responsible to make any changes recommended by TSG and agreed to by the Client's staff or management.
- The Client will understand that TSG makes no warranties against suggested changes to the environment.

Unified Classroom

The Enterprise Management Service includes configuring the PowerSchool environment for Unified Classroom, setting up and monitoring the VPN connection, and applying all required PowerSchool SIS updates.

1. TSG Responsibilities

- TSG will assist in the initial configuration of the PowerSchool environment for Unified Classroom.
- TSG will schedule and perform any PowerSchool updates or upgrades required for the initial Unified Classroom configuration. (Unified Classroom requires the latest version of PowerSchool.)
- TSG will schedule and perform the initial sync between the local PowerSchool environment and Unified Classroom.
- TSG will create the required VPN tunnel for Unified Classroom.
- TSG will monitor the VPN tunnel connection.
- TSG will perform all required PowerSchool version updates during the Unified Classroom maintenance window. These updates are mandatory.
- TSG will ensure the PowerSchool version update option is configured for automatic updates for Unified Classroom.
- TSG will ensure that the PowerSchool application is in an available state (as indicated by the presence of a logon screen) once all relevant software updates have been applied.
- TSG will notify the EMS Technical Contact(s) via email once all applicable software updates have been applied and the PowerSchool Software Update Service maintenance window has been completed.
- TSG will notify the EMS Technical Contact(s) via email if issues arise during the upgrade that will prolong the PowerSchool Software Update Service maintenance window.
- The maintenance window for Unified Classroom updates will often be after hours on Fridays but is wholly dependent on the Unified Classroom update schedule. TSG will schedule and send notification for when the required update will be performed. The update must be performed during the Unified Classroom update.

2. Client Responsibilities

It will be the responsibility of the Client to ensure each of the following items are understood and addressed by the Client.

- The Client will identify a Primary Technical Contact that will be available to work with TSG during the review as appropriate.
- The Client will provide TSG with remote access to any and all servers necessary to perform any actions needed for Unified Classroom.
- The Client will provide TSG with administrative accounts used to assess infrastructure components.
- The Client will be responsible to make any changes recommended by TSG and agreed to by the Client's staff or management.
- The Client will understand that TSG makes no warranties against suggested changes to the environment.
- The Client is to review all Release Notifications related to the version of PowerSchool being installed and fully understand the implications (benefits and impact on current operations) introduced as a result of the update. Questions or issues concerning the update's influence on the visibility to your data or the continued access to, or use of, customizations should be directed to the PowerSchool Technical Support department.
- The Client will understand that PowerSchool versions required by the correct function of the Unified Classroom platform will be automatically applied immediately after the release of the version. Accordingly, the Client will not be able to determine what releases to adopt nor the date and/or time of the deployment of that release.

Contacting TSG

TSG has established a process for EMS clients to use in order to ensure a timely response to EMS support and service requests. When the Client contacts TSG, a TSG Systems Engineer will be assigned to assist the Client with the request. The Systems Engineer will have access to documentation capturing the technical information related to the Client's PowerSchool environment and an archive of previous support issues and requests.

In order to best serve our Enterprise Management Service clients, TSG has staff working across 6 different time zones. TSG staff also speak multiple languages to facilitate communication with EMS clients across the world. Languages currently include English, French, Spanish, Mandarin, Cantonese Farsi, and Finnish.

The three primary methods for requesting service or support are as follows:

- **Email**

  To receive support or request services by email, the Client should direct their requests to TSG at **myEMS@powerschool.com**. The PowerSchool Customer Number should be referenced in the Subject Line for fastest processing.

- **Telephone**

  To receive support or request services by telephone, the Client should call *1.866.434.6276* or *1.916.288.1881*, and select the option #6 for "EMS, DCS and ITSS." The PowerSchool Customer Number should be ready to be provided to the responding TSG Systems Engineer.

- **PowerSource Self-Service Portal**

  To receive support via the Self Service Portal of PowerSource, the Client should visit **PowerSource**, navigate to Support, and submit a new case.

1. Hours of Operation
- Standard hours of TSG operations are Monday through Friday from 5:00 AM to 5:00 PM Pacific Time excluding US holidays.
- Extended hours of TSG operations specifically for enhanced support for EMS clients are 24 hours/day Monday through Thursday, Fridays Midnight – 9PM, Saturdays 4AM – 6PM, and Sundays 4AM - 6PM and 9PM to Midnight Pacific Time excluding joint US and Canadian holidays unless otherwise specified or negotiated. Every effort will be made to

accommodate all EMS-related needs during the extended hours, but priority will be given to those situations involving critical tasks.

Note: Typically, the Client will be contacted within the targeted response time noted above. However, call volume may impact our targeted response time. Pre-scheduled off-hours support is available at an additional cost.

2. Client Escalation Procedure

The following procedure will be observed if resolution is required to a conflict arising during the performance and fulfillment of this offering:

- If TSG cannot provide resolution or indicate the appropriate path to resolution within two (2) business days from receipt of the support request, the Client's Primary Contact can contact TSG management directly at **tsgmanagement@powerschool.com** via email with the details of the situation and desired escalation.