

OMES-ISD Technical Position Paper for Measured Progress Winter Testing

Executive Summary:

OMES-ISD recommends that from a technology support perspective that the Oklahoma State Department of Education is safe to proceed with engaging Measured Progress and their subcontractor eMetrics for online Winter EOI and Winter retests for AY 14-15 as per the Statement of Work. At this time, OMES-ISD has not found any evidence that Measured Progress is incapable of performing the technical and online aspects of the Statement of Work.

OMES-ISD believes that Measured Progress and eMetrics have sufficient readiness, planning, and quality assurance and system recovery procedures and processes in place to support the capacity, technical performance, and system availability required during this period for the approximate number of identified students in online testing. Additionally, certain technical aspects of the project, which include items such as pre-population of student registrations, reporting of test results, and compatibility communication, appear to be properly stipulated within the SOW. Finally, Measured Progress has demonstrated positive performance with many similar items in other States, and within Oklahoma as well. With this recommendation comes minor concerns of outstanding low-risk components in categories such as District readiness and testing, changes in infrastructure hosting, and accountability in the Statement of Work. These areas are minor, and suggested risk mitigation and remediation plans are outlined below.

Overview of IT components of the Statement of Work:

Broken out below are several categories of IT tasks and responsibilities stipulated in the Statement of Work and otherwise discussed as ancillary requirements to Measured Progress' success in Winter testing. Any items that have an associated risk with them are identified on a 1-5 scale, with 5 being the highest, with a strong likelihood of catastrophic or severe failure, and 1 being a very small likelihood of minor inconvenience or delay.

Data Components and Pre-Work:

The SOW identifies tasks, and Measured Progress has Oklahoma experience with our particular needs regarding Pre-Coding of students, district test coordinator and student account creation, student mobility, and initial data loading within their testing platform. No changes have been made to Wave Pre-Code formats and Measured Progress is expecting the same data formats as last year.

At this time, OMES-ISD does not identify any reportable risk for this category.

Infrastructure:

Measured Progress' infrastructure include rigorous elimination of single points of failure, enterprise level architecture include database server clustering with failover capabilities, load balancing on web and application servers, and the ability to add capacity to system groups on demand through the use of virtual hardware. Finally, all network components at the head-end of these items are deployed with an HA (High-Availability) mindset to eliminate all single points of failure, including load balancers and

networking equipment, and critical servers themselves. This flexibility and attention to redundancy eliminates any significant risk during the testing window from a server and networking perspective.

eMetrics utilizes a robust, distributed system infrastructure hosted by a third-party hosting firm. Currently, servers and infrastructure components are being transitioned to Measured Progress' preferred hosting vendor, with completion of this transition prior to the end of October. Measured Progress reports that this vendor, NaviSite, is an ANSI/TIA-942 Tier 3 data center and provides significant redundancy in all of the major components required to guarantee this level of compliance and uptime, including redundant power and on-site generators, 5 separate internet service providers, etc.

After the transition is complete, Measured Progress anticipates a significant period of load testing to ensure that no issues will be complete. This load testing will conclude prior to the beginning of testing. While the timescales are compressed for Oklahoma's needs, Measured Progress has time to either backout the changes or investigate an alternative if the server move doesn't complete properly or there are issues identified in testing and validation stages of this migration. Still, it is possible that, due to the introduction of unknown variables in the new environment, it is not possible to rule out the possibility, while remote, that stability or access issues could conceivably be encountered during the testing window. However, due to the nature of the offline support of the clients themselves and the relatively low number of students being tested, brief windows of failure or unavailability due to any of these unknown variables, impact on individual test-takers should be very low.

At this time, OMES-ISD identifies a risk in this category as a 2 on the above scale.

Recommendation: OMES-ISD recommends accepting this risk and monitoring it, as it appears that Measured Progress has a plan in place to identify the vast majority of these concerns and will have more information as the migration project closes. The level of concern surrounding this risk may lower or grow in the coming weeks as further details and results arise around Measured Progress' upcoming infrastructure change.

District Workstation Support and Client:

Measured Progress and eMetrics still comply with PARCC standards, and while this is not an Oklahoma requirement ensures that with a compatible and compliant architecture, much of which already exists throughout the State, that whatever Measured Progress provides will be compatible and robust. Additionally, districts are already familiar with the client testing component, as all districts had a limited deployment for 3-8 Field test last year. Last year, Measured Progress identified a technical issue in Thin Clients, but this was resolved prior to operational testing.

The eMetric testing client is a simplified install that works in a largely disconnected state with "heartbeats" back to eMetrics servers. This client has been identified to be easy to install, use, and very robust, supporting well understood standards and not requiring secondary or additional installations of other software to operate.

Finally, Measured Progress has indicated that it does not recommend, nor will support, Windows 8 touchscreen-enabled tablets due to the fact that it is not secure enough in kiosk mode to prevent students from accessing other programs installed on the device, such as starting up a web browser to search for test answers. This appears to be primarily a failing within the Operating system itself and not Measured Progress' client. Non-touchscreen devices running Windows 8 are not affected by this issue.

Some districts may be affected by this issue if they have purchased and deployed Windows 8 touchscreen devices, however, due to the small number of students testing any other computing device, such as standard Windows-based non-touchscreen workstations that are otherwise secure in kiosk mode would suffice for testing purposes.

At this time, OMES-ISD does not identify any reportable risk for this category.

District Connectivity and Technical Readiness:

OMES-ISD believes that there are few milestones and action items in the current Statement of Work regarding District IT coordinator engagement to properly communicate, support, and engage district IT staff. Several items through the Statement of Work mention District Test coordinator items, but there are no mentions of district pilots or stress testing, other than the fact that a sample test is provided in Measured Progress' system. Measured Progress may be preparing to engage District IT staff upon acceptance of the SOW, however, there should be some accountability for these necessary actions and the engagement, planning, and implementation of these processes.

At this time, OMES-ISD identifies a risk in this category as a 1 on the above scale.

Recommendation: OMES-ISD recommends building tasks and milestones into the Statement of Work that require District IT staff engagement to determine problems that may occur, primarily around preparing and planning network connectivity. This could include a stress test if time allows.

Support:

Measured Progress provided a sample of representative Helpdesk cases from last year, and the most notable issue appears to be network and internet connectivity primarily at rural sites. This is to be expected. Due to the disconnected model that Measured Progress employs, where test responses are encrypted and stored locally and only transmitted when Internet connectivity is restored, this issue is minimal. Other than this, the Statement of Work requires the availability of technical support, which was established and working during last year's Spring 3-8 Field Test.

At this time, OMES-ISD does not identify any reportable risk for this category.

Disaster Recovery/Business Continuity:

Measured Progress indicates that they have a robust data backup and disaster recovery strategy. This strategy guarantees that (utilizing transaction log shipping to an off-site location) an off-site backup of data occurs every 15 minutes, meaning the greatest temporal data loss than can occur would be up to 15 minutes in the past. Additionally, in the event of a natural disaster or catastrophic data center failure, Measured Progress has a 72 Disaster Recovery plan. Measured Progress indicated that from a business continuity perspective, they have completed a formalized BCP with documented mission critical business processes, and it is before their C-Level leadership for final approval. Their risk analysis is ongoing and partially complete, and they are planning a business impact analysis around the beginning of the year. Finally, for disaster or failure testing, Measured Progress reports low-level database restore and failover tests within the past month,

At this time, OMES-ISD does not identify any reportable risk for this category.