# Application Assessment – 200 King St. West

| **Application Assessment -** LiveLink (Strata) January, 2018 – Seven (7) power users (wired and wireless) and thirteen (13) application servers | | |
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| Activity was focused on the cloud readiness of the on-premise applications used by OPB users. The data accumulated during this assessment quickly showed that the end-user performance was seriously impacted by an inadequate performing network infrastructure. Our findings are partially reflecting the state of the (layer 3-4 network) alongside our assessment of the OPB applications being cloud ready (or not). | | |
| **Criteria** | | **Assessment** |
| Network Performance<br>Analysis of network traffic utilization and overall performance | | Critical network issues were identified that impacted the "baseline" need to be resolved immediately. In general, the OPB network is not "healthy", with a high percentage of network retransmits (35-50%) across ALL (not just Livelink) applications (file transfer, email, database, etc.). High application latency was discovered for Livelink (60-80 seconds) and other applications. |
| Application Performance<br>Analysis of server/application performance | | Servers were impacted by 35-50% retransmits and high peak/average latency. The application "baseline" not accurate representation given network issues. The migration of (Livelink) applications to the Cloud will amplify performance issues. Front-End Servers (10.20.45.28/27) have performance and latency issues for all users. |
| User Experience<br>Observe user latency and performance impacts | | Power Users are experiencing significant performance impact from the identified network issues. These users also observe higher latency and performance impact when downloading Livelink data as compared to uploading data (related to traffic volume). The wireless Power Users observe higher network latency, which simulates a potential cloud migration impact. |
| Operating Procedures<br>Review OPB application and network performance processes | | Although the applications and network are managed by a third-party provider, there does not appear to be a formal process in place to monitor the performance of core business applications. Reporting of key metrics such as network and application performance are not readily available. It was confirmed that Network Statistics are not part of the standard reporting process. |

## Additional Details

Network Performance

- Network latency higher for wireless users, indicative of cloud migration & cumulative impact
- Network congestion and utilization concerns w burst of traffic during office hours (9a-5p)
- Observed duplicate and out-of-sequence packets as well as re-transmits
- Network Assessment is required to identify causes and resolve network health issues before re-assessment of Livelink application performance to baseline and plan cloud migration

Application Performance

- Livelink Application Servers are not load balancing
- Windows Update should not be scheduled during business hours as observed to impact performance (of Livelink Servers)
- Livelink Servers have latency/retransmit issues w other devices/servers, correlated to traffic volume, including back-end server-to-server traffic

User Experience

- Other(All) Livelink Users experiencing high peak/average latency and retransmit issues
- Other application performance (file transfer, email) also impacted by network issues

Operating Procedures

- OPB appears to follow a standard waterfall Software Development Life Cycle (SDLC) process in support of application development – the future goal is to move to an agile methodology
- There is minimal visibility into the network

## Recommendations

- Any business or IT infrastructure change planned, will have to be preceded with a **network assessment** to mitigate the identified issues
- OPB should **re-assess and baseline** Livelink Application once network issues resolved
- OPB should continue to **measure application performance** on on-going basis (assess progress)
- OPB should continue to utilize **Application Performance Monitoring** tools as applications are migrated to the cloud: **Usage** - can determine SaaS usage, users, applications and data movement, perf. & security concerns, **Delivery (Path)** - can determine paths, latency, redundancy, capacity, availability, geo location, measure SLAs, **Experience** - can utilize to measure end-user experience, support application development, performance & security
- As a precursor to the migration of services to the cloud, it is highly recommended that issues pertaining to network and application performance be analyzed further and addressed