# VDI issues for developers

* Display
  + There is noticeable lag and response time when moving windows on a dual screen
  + Frequently when unlocking the machine, the desktop does not refresh itself and requires resetting the VDI until the display re-paints correctly.
  + Also when unlocking, the VDI forgets there is a second monitor, so restarting the VDI is required to get the second monitor recognized again.
  + Note: We noticed that we did not have these display issues when we use the RDP protocol into the VM session as compared to using the VDI device.
  + ***Impact****: Loss on average 15-20 minutes per occurrence. Average occurrences are one to two per day.*
* RAM
  + Physical RAM usage is frequently between 80-95%.
  + VDI users have 4 GB, which is ¼ the RAM of physical machine developers.
  + ***Impact****: there is a constant juggling act between keeping multiple applications open and experiencing acceptable responsiveness.*
* Hard disk space
  + We are frequently running out of hard drive space. Current developers on physical machines have either 250 or 320 GB. The recommended size for our team is 160 GB.
  + ***Impact****: We need to frequently ask for more space or find ways to create more space. This can take 1 – 2 hours per occurrence with a frequency of once per month average.*
* Performance
  + Developer productivity tools, e.g. ReSharper, cannot be used without performance suffering as a result.
  + Page load times (see timings in grid below) are considerably slower than developers on physical machines.
  + ***Impact****: The slow performance reduces productivity compared to developers on physical machines. We find that we lose our train of thought and our concentration is broken between functions. For example, two simple clicks to login and navigate to statements/invoices in a debugging session takes2.5 minutes on a VDI compared to 21 seconds on a physical machine. This is very noticeable when developing a feature which requires stopping and restarting the debugging session many times.*

Comparison of times for common developer functions with VDI and physical machine

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| --- | --- | --- |
| 1/9/2013 | **Physical Specifications** | **VDI Specifications** |
|  | Windows 7 64-bit | Windows 7 64-bit |
|  | 16 GB RAM | 4.0 GB RAM |
|  | Dual 3.00 GHz Athlon II (B24) | Dual 2.00 GHz Xeon (E5-2650) |
|  | 150GB 7200RPM SATA HDD | 80GB High Performance SAN |
|  |  |  |
|  | **Time (s) - Physical** | **Time (s) - VDI** |
| **Page Load** |  |  |
| Login + Overview | 7 | 95 |
| Statements/Invoices | 14 | 54 |
| Account Transfer | 14 | 27 |
| Bill Pay (No Account) | 4 | 17 |
| Bill Pay (3404) | 10 | 27 |
| Bill Pay (9809, unavailable) | 7 | 45 |
| Reports (no data) | 5 | 30 |
| Reports (over 5000 error) | 8 | 33 |
| Reports (valid report) | 25 | 85 |
| Overview | 5 | 47 |
|  |  |  |
| **Compilation With Resharper** |  |  |
| BOLAuthentifyExtensions Business UI | 77 | 264 |
|  |  |  |
| **Compilation Without Resharper** |  |  |
| BOLAuthentifyExtensions Business UI | N/A | 148 |
|  |  |  |
| **Unit Tests** |  |  |
| BOLAuthentifyExtensions Business UI | 61 | 153 |