HigherEd Analytics Server Sizing Guidelines and Software Requirements

!! Note: The HigherEd Analytics requires servers for both the "backend" database servers and "front end" web based reporting tool applications. Some customers run the complete application environment on a single server and some split out the components on two (2) servers. Additionally, some use 32-bit servers and some use 64-bit servers. The appropriate server topology for each customer depends upon many factors including internal policies and standards, budget constraints, size of institution, number of iStrategy modules running, number of concurrent reporting users, types of reporting tools used and others.

This document includes:

1. Minimum Recommended Server Guidelines
2. Sample Sizing Profiles
3. Disk Space Requirements Example
4. Required and Optional Software Components

1. Minimum Recommended Server Guidelines

One Server Configuration – Minimum Recommended Guidelines

	~5,000 Students	10,000+ Students	20,000+ Students
Processor	4 processors (32 bit)	4-8 processors (32 or 64 bit)	4-8 processors (64 bit)
Operating System	Windows 2008 Server	Windows 2008 Server	Windows 2008 Server
RAM	8 GB	8-16 GB	12-16 GB

Two Server Configuration – Minimum Recommended Guidelines

	~5,000 Students	10,000+ Students	20,000+ Students
Database Server:			
Processor	4 processors (32 bit)	4-8 processors (32 or 64 bit)	4-8 processors (64 bit)
Operating System	Windows 2008 Server	Windows 2008 Server	Windows 2008 Server
RAM	8 GB	8-16 GB	12-16 GB
Reporting Server:			
Processor	2 processors (32 bit)	2-4 processors (32 bit)	2-4 processors (32 bit)
Operating System	Windows 2008 Server	Windows 2008 Server	Windows 2008 Server
RAM	4 GB	4-8 GB	4-8 GB

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Notes:

- **Actual server configuration should be based on thorough analysis of DW sizing, performance requirements and DW usage profile.**

- Multiple HigherEd Analytics modules (e.g., Student, Finance, HR) can one on a single database server; however, additional server resources may be required for multiple modules.

- Processors are virtual processors (e.g., 2 quad core = 8 processors)

- We strongly recommend a dedicated database server for HigherEd Analytics.

- For institutions choosing to initially run a single server configuration, the application can be later deployed on multiple server tiers.

- No specific RAID or drive setup is required since the database is not highly transactional; however, the faster the disk the better.

2. Student Module Sample Sizing Profiles

	School Size and Years Loaded Daily		
	5,000 Students/ Full Daily Refresh	20,000+ Students/ 10 Year Daily Refresh	20,000+ Students/ 10 Year Daily Refresh
# of Servers	1	2	1
Database Server Specs:			
Processors	8 (32 bit)	8 (64 bit)	8 (32 bit)
RAM	8 GB	32 GB	8 GB
Disk Type	Local	Fiber SAN	Local
Daily Load Time (Student module)	35 Minutes	2.5 Hours	3.5 Hours

3. Disk Space Requirements Example (Student Module)

Student Count: 20,000
# of Years in Warehouse: 10
DW Table Space: 30 GB
Log File   20 GB
Program and Other Files: <u>34 GB</u>
Minimum Total DW Space Required: <u>84 GB</u>

Recommended Minimum Disk: **200 GB**

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4. Required Software Components

Operating Systems:
- Microsoft Windows 2003 Enterprise or Datacenter
- Microsoft Windows 2008 (recommended)

Database Software/Services:
- Microsoft SQL Server Enterprise Edition
    - 2005 or 2008 (recommended)
    - Connection to ERP Database via Linked Server (component of SQL Server)
- Microsoft Integration Services (1) – Scheduling of ETL Process
- Microsoft Analysis Services (1) – OLAP Database Server

Reporting Software/Services:
- Microsoft ProClarity Server (2) – Analytic Reporting
- Microsoft IIS Web Server – Required for ProClarity, Reporting Services and Performance Point

Optional Reporting Software (no additional cost for tools):
- Microsoft Reporting Services (1) – Relational & OLAP Report Server
- Microsoft SharePoint 2010 Enterprise Server (2) – PerformancePoint Services-based Dashboards, Scorecards and Analytics, but not required for ProClarity

Notes:
- (1) Included w/ SQL Server Enterprise License at no additional cost
- (2) ProClarity and PerformancePoint are included with SharePoint Enterprise Server and CAL Licenses (Note: ProClarity and PerformancePoint cannot be separately licensed). Installation of SharePoint is not required to run ProClarity, but is required to use PerformancePoint Services.
- ProClarity requires that IIS run in 32-bit mode. As such, when running Windows 2003, Reporting Services and ProClarity cannot run on the same 64-bit server. This issue does not apply to Windows 2008.
- MS Reporting Services requires a SQL Server license for the specific server on which it is installed
- For customers using an Oracle ERP source database, the Oracle Client Tools pack must also be installed on the DW database server. The client tools must match the bitness (32 or 64-bit) of the installed version of SQL Server.
- All software components require the latest Microsoft service pack installed.