EDUCATION PARTNER BRIEF

Sun and SunGard Higher Education

SunGard Higher Education has been enhancing institutional performance, promoting individual achievement, and fostering worldwide educational communities since 1968. SunGard Higher Education helps institutions build a Unified Digital Campus, an environment that unifies people, process, and technology to enhance performance, accountability, competitiveness, and the quality of education experiences delivered to every constituent.

The Value Proposition

SunGard Higher Education's Banner solution, the world's most widely used administrative suite for higher education, supports over 900 campuses of all sizes and types around the globe. It offers a proven suite of administrative functions that institutions need to run their business - application services such as student information, advancement, financial aid, human resources and payroll, finance. These core capabilities have been coupled with portal, integration, content management, information access, and academic functionality, enable personal-ization of the learner experience. Banner features an open Application Programming Interface (API), message-aware architecture that supports integration among key campus functions such as learning management, housing, one-card, library, e-procurement, and bookstore systems allowing institutions to unify their digital assets.

The SunGard Higher Education Luminis product family is a suite of flexible software solutions which unify, manage, and extend the digital campus through an Oracle database, enabling schools to deliver highly personalized information and services to campus constituents, including students, faculty, and staff. Because it is based on open standards, the Luminis Platform, can take advantage of its ability to tie into - and add value to - the institution's existing legacy systems and future technology choices while dramatically simplifying user management.

Competitive Standing

SunGard Higher Education assists institutions in one of their most critical challenges: attracting, serving, and retaining learners in an environment of increased service expectations and reduced budgets. So impressive is SunGard Higher Education's performance in this market that Gartner Group has placed them in its famous "upper right-hand quadrant" as leaders and visionaries in the Integrated Information Solutions Vendor space.

The company's technology strategy is built on a proven open standards-based architecture. The Banner 7 release achieves high performance marks on Solaris™ 9 and 10 while the Luminis Platform is built on Sun's Java™ Enterprise Systems architecture. It incorporates three tiers of integrated components:

- A presentation layer, which provides a consistent, unified and user-friendly view of information
- An application layer, which provides common services and functionality such as messaging, directory and calendar, that bridges applications and enhances their value
- An enterprise data layer, which ensures manageability and integrity of data storage, access and reporting.

This tiered approach gives institutions an unparalleled degree of control over their operations, in managing content, streamlining workflows, assessing performance, modularizing component upgrades, and providing the personalized and customizable tools to allow students and communities to achieve maximum value from their educational experience.

Global Partners in Education

Sun Microsystems has been a key solution partner of SunGard Higher Education since the 1990s. Together the two companies have provided seamless solutions for leading

universities and colleges worldwide.

Sun and SunGard Higher Education share the same vision when it comes to creating solutions that will support an institution's Unified Digital Campus. Both companies build their product suites on an open, web-services architecture, emphasizing integrated solutions over consolidating point products with special coding. Both companies ensure customer satisfaction of students, faculty and staff, and administrators by maintaining highly reliable, available, and scalable systems capable of handling even the most demanding and variable of university environments. Both companies even share similar cultures in areas such as performance improvement and community building. The tight integration of SunGard Higher Education and Sun product solutions customers witness in their IT installations goes much deeper between the two companies behind the scenes.

Evidencing both companies' commitment to community building, Sun has named three universities as Sun Centers of Excellence in Higher Education Administrative Systems. Wayne State University in Detroit, Michigan, a longtime Banner user, the University of Hawaii, where both Banner and the Luminis Platform are deployed, and Pennsylvania's Villanova University, an early adopter of Banner and the Java Enterprise System web services delivery architecture, assist other institutions in understanding the issues of unifying their digital campuses with SunGard Higher Education.

Why SunGard on Sun?

- *Scalability and Integration*: SunGard Higher Education on Sun provides the degree of seamless scalability necessary to handle the peak workloads of academia, such as registration and assessment, by combining the power of a 64-bit operating system, Solaris™, a 64-bit CPU, UltraSPARC® IV, and a tightly-integrated Java Enterprise System stack to deliver performance where client satisfaction is critical.
- *Open Standards*: Both companies' commitment to open standards means academic customers can build modular infrastructures using combinations of best-of-breed services with SunGard Higher Education/Sun product suites to meet specific campus requirements. Open standards provide control through choice and flexibility, lowering risk, reducing costs through reusable components, and speeding deployment to demanding constituents.
- *Lower Total Cost of Ownership (TCO)*: Sun technology and common architec-tural approach maximize return on investment (ROI) and lower total cost of ownership (TCO), versus vertically-integrated models, by reducing licensing, operational and acquisition costs, avoiding lock-in by increasing competition and choice, and enabling modular changes based on customer, rather than vendor, requirements, budgeting and timetables.
- *Reliability and Availability*: Sun products and services have been delivering unparalleled reliability and availability to mission-critical applications in academic institutions since long before the World Wide Web. Redundancy and failover features in both hardware and the Solaris operating system, coupled with a dedicated Sun and partner support organization, allow the attainment of most any operational or service level requirement.

SunGard Luminis Platform Three Machine Configuration w/Solaris 9 Operating Environment
(1)Luminis Platform Native Software + (2)Calendar + (3)Messaging

Server	2,001 – 7,500 Users	7,501 – 15,000 Users	15,001 – 25,000 Users	25,001 – 35,000 Users	35,001 – 50,000 Users[1]
Luminis Platform Server - web, directory, portal and calendar[2]	2 Sun Fire™ V490s, 2 x 1.05-GHz UltraSPARC IV (CMT) cpus, 4 GB RAM, appropriate drive space[1], RAID-5 recommended	2 Sun Fire V490s, 4 x 1.05-GHz UltraSPARC IV (CMT) processors, 4 GB RAM, appropriate hard drive space[1], RAID-5 recomended	2 Sun Fire V490s, 4 x 1.05-GHz UltraSPARC IV (CMT) processors, 4 GB RAM, appropr-iate hard drive space, RAID-5 recomended	2 Sun Fire V890s, 6 x 1.05-GHz UltraSPARC IV (CMT) processors, 8 GB RAM, appropriate hard drive space, RAID-5 recommended	2 Sun Fire V890s, 6 x 1.05-GHz UltraSPARC IV (CMT) processors, 8 GB RAM, appropr-iate hard drive space, RAID-5 recommended
Messaging Server	Sun Fire 280R, 2 x 1.2 GHz UltraSparc III processors, 2 GB RAM, 73 GB disk, RAID-5 recommended	Sun Fire V490, 2 x 1.05-GHz UltraSPARC IV (CMT) processors, 2 GB RAM, 73 GB disk, RAID-5 recommended	Sun Fire V490, 4 x 1.05-GHz UltraSPARC IV (CMT) processors, 6 GB RAM, 73 GB disk, RAID-5 recommended	Sun Fire V490, 4 x 1.05-GHz UltraSPARC IV (CMT) processors, 6 GB RAM, 73 GB disk, RAID-5 recommended	Sun Fire V890, 6 x 1.05-GHz UltraSPARC IV (CMT) processors, 8 GB RAM, appropr-iate hard drive space, RAID-5 recommended
Web Content Mgmt Server	See footnote 3	See footnote 3	See footnote 3	See footnote 3	See footnote 3

1 As derived from formulas in the SunGard Higher Education Luminis Hardware Document
2 Luminis Platform requires access to an RDBMS.
3 Refer to the Luminis Hardware Document for information on sizing the document/content management components

SunGard Higher Education Banner Suggested Configurations Solaris 10 Operating Environment						
	Fewer Than 8,000 Students		**8,000 – 15,001 Students**		**15,001 – 25,000 Students**	
Machine Use	Minimum CPU & Memory configuration	Required Software (in addition to O/S)	Minimum CPU & Memory configuration	Required Software (in addition to O/S)	Minimum CPU & Memory configuration	Required Software (in addition to O/S)
Production Banner Database Server For Higher Availability with added redundancy and "Hot Swap"	Sun Fire™ V490, two to four 1.05-GHz UltraSPARC IV CMT cpus, 4 GB RAM, six 73 GB drives, DVD	Oracle Database Enterprise Edition, Oracle Programmer, C/C++ compiler[1], COBOL compiler[2], Banner software, PERL (NT Only)	Sun Fire V890 six 1.05-GHz UltraSPARC IV CMT cpus, 4 GB RAM, six 73GB drives, DVD	Oracle Database Enterprise Edition, Oracle Programmer, C/C++ compiler[1], COBOL compiler[2], Banner, PERL (NT Only)	Sun Fire V890 eight 1.05-GHz UltraSPARC IV CMT cpus, 8 GB RAM, eight 73GB drives, DVD	Oracle Database Enterprise Edition, Oracle Programmer, C/C++ compiler , COBOL compiler, Banner, PERL (NT Only)
Banner Self Service Web Server	Sun Fire 280R, two 1.2 GHz UltraSPARC III cpus, 2 GB RAM, two 36 GB drives, DVD	Oracle Internet Application Server Enterprise Edition, Banner software	Sun Fire 280R, two 1.2 GHz UltraSPARC III cpus, 2 GB RAM, two 36GB drives, DVD	Oracle Internet Application Server Enterprise Edition, Banner software	Sun Enterprise™ V490, four 1.05-GHz UltraSPARC IV CMT cpus, 4 GB RAM, six 73GB drives, DVD	Oracle Internet Application Server Enterprise Edition, Banner software
Banner Core Components Web Server	Sun Fire 280R, two 1.2 GHz UltraSPARC III cpus, 2 GB RAM, two 36 GB drives, DVD	Oracle Internet Application Server Enterprise Edition with forms and reports services	Sun Fire 280R, two 1.2 GHz UltraSPARC III cpus, 2 GB RAM, two 36 GB drives, DVD	Oracle Internet Application Server Enterprise Edition with forms and reports services	Sun Enterprise™ V490, four 1.05-GHz UltraSPARC IV CMT cpus, 4 GB RAM, two 73 GB drives, CD-ROM/DVD	Oracle Internet Application Server Enterprise Edition with forms and reports services

1. Unix systems require ANSI compliant C or C++ compiler, NT systems require Microsoft Visual C++ 5.0 or later
2. Requires MicroFocus Server Express 4.0 SP1 or higher. Both developer and sufficient runtime licenses are required. Contact MicroFocus (www.microfocus.com) for details.

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