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<b>Application Data Sheet 37 CFR 1.76</b>		Attorney Docket Number	NETL.096PR
		Application Number	
Title of Invention	HIGH DENSITY DIMMS		
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<input type="checkbox"/>	Portions or all of the application associated with this Application Data Sheet may fall under a Secrecy Order pursuant to 37 CFR 5.2 (Paper filers only. Applications that fall under Secrecy Order may not be filed electronically.)
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<b>Applicant 1</b>					
<b>Applicant Authority</b> <input checked="" type="radio"/> Inventor		<input type="radio"/> Legal Representative under 35 U.S.C. 117		<input type="radio"/> Party of Interest under 35 U.S.C. 118	
<b>Prefix</b>	<b>Given Name</b>	<b>Middle Name</b>	<b>Family Name</b>	<b>Suffix</b>	
	Hyun		Lee		
<b>Residence Information (Select One)</b> <input checked="" type="radio"/> US Residency <input type="radio"/> Non US Residency <input type="radio"/> Active US Military Service					
<b>City</b>	Ladera Ranch	<b>State/Province</b>	CA	<b>Country of Residence</b>	US
<b>Citizenship under 37 CFR 1.41(b)</b>		US			
<b>Mailing Address of Applicant:</b>					
<b>Address 1</b>	21 Thalia Street				
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<b>City</b>	Ladera Ranch	<b>State/Province</b>	CA		
<b>Postal Code</b>	92694	<b>Country</b>	US		
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<b>Customer Number</b>	20995		
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**Application Information:**

<b>Title of the Invention</b>	HIGH DENSITY DIMMS		
<b>Attorney Docket Number</b>	NETL.096PR	<b>Small Entity Status Claimed</b> <input type="checkbox"/>	
<b>Application Type</b>	Provisional		
<b>Subject Matter</b>	Utility		
<b>Suggested Class (if any)</b>		<b>Sub Class (if any)</b>	
<b>Suggested Technology Center (if any)</b>			
<b>Total Number of Drawing Sheets (if any)</b>	10	<b>Suggested Figure for Publication (if any)</b>	

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Title of Invention	HIGH DENSITY DIMMS		

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<input type="checkbox"/>	Request Early Publication (Fee required at time of Request 37 CFR 1.219)
<input type="checkbox"/>	<b>Request Not to Publish.</b> I hereby request that the attached application not be published under 35 U.S.C. 122(b) and certify that the invention disclosed in the attached application <b>has not and will not</b> be the subject of an application filed in another country, or under a multilateral international agreement, that requires publication at eighteen months after filing.

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Customer Number	20995		

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Prior Application Status			<input type="button" value="Remove"/>
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)
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Application Number	Country <sup>1</sup>	Parent Filing Date (YYYY-MM-DD)	Priority Claimed
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**Assignee Information:**

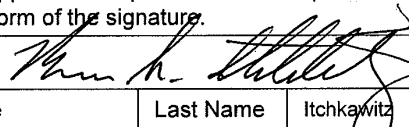
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<b>Assignee 1</b>

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If the Assignee is an Organization check here. <input type="checkbox"/>				
Prefix	Given Name	Middle Name	Family Name	Suffix
<b>Mailing Address Information:</b>				
Address 1				
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City		State/Province		
Country	Postal Code			
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**Signature:**

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Signature			Date (YYYY-MM-DD)	2011-07-28	
First Name	Bruce	Last Name	Itchkawitz	Registration Number	47677

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**HIGH DENSITY DIMMS**

## BACKGROUND

[0001] As technology advances and the usage of tablet notebook computer increases, more data needs to be transferred among the data centers and to/from the end users. In many cases, the data centers are built by clustering many servers that are networked to increase the performance.

[0002] Although there are many types of networking that are based on the applications, the basic concept is to increase the performance by dynamically allocating the computing resources. In recent years, the server technology has been evolved to serve many specific applications such as 'finance transaction' (e.g., POS, inter-bank transaction, stock market transaction), 'scientific computation' (e.g., fluid dynamic for automobile and ship design, weather prediction, oil and gas expeditions), 'medical diagnostics' (e.g., diagnostics based on the fuzzy logic, medical data processing), 'simple information sharing and searching' (e.g., web search, retail store website, company home page), 'email' (information distribution and archive), 'security service', 'entertainment' (e.g., video-on-demand), etc. However, all these applications share the same information transfer bottleneck, which resides in the CPU efficiently being able to transfer the data. This is because all data transfers are going through the CPU I/O channels.

[0003] The data transfer limitation by the CPU also applies to the data transfer from/to either HD or SSD to/from the memory subsystem that is connected to the FSB (Front Side Bus).

[0004] There have been various configurations to increase the data transfer from/to the main storage, such as HD or DDS, to the local DRAMs for the faster data throughput rate. Especially, the EMM that is supported with EcoRAM (Spansion) (see, Appendix B) presents an idea of constructing a fast SSD that assumes the physical form factor of a DIMM. Spansion populates the EcoRAM with a large quantity of Flash memories and a limited amount of DRAMs that serves as a data buffer. This arrangement delivers a much higher throughput rate than standard SSD since this EcoRAM is connected to the CPU via the HT interface while SSD is connected via SATA or USB. The read random access

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