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THE FUTURE IS GREEN

Sebastian Banica
Senior Director Direct Sales

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Green IT - The Future Is Now

- Green IT consists of optimizing processes to reduce total resource consumption and waste output. This makes sound business sense in itself, and should ideally form part of the core of any IT manager's activity.
- Greening the IT department is only part of the pressure an organization will face to support environmentally sustainable operations. As prices rise, every aspect of the organization will be "simplified, streamlined and rationalized" to reduce its resource consumption.
- The areas where the greatest overall effect can be made the fastest are at the desktop and with client devices.
- Regardless of the soundness of the underlying science or economics, "greenism," environmental sustainability and skyrocketing resource costs are firmly emplaced trends that must be addressed by strategic planners.

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Green Imperatives

1. **Reduce surprise** - The first managerial goal here is to reduce surprise — gain a precise understanding of what is required of the customers early enough for effective compliance
2. **Reduce resistance -** In general, people are in favor of recycling; however, as we have seen, they are even more in favor of personal convenience. Human behavior is at once more malleable and resistant to change than IT equipment and physical plants.
3. **Reduce demand** - Moving to more-energy-efficient equipment will be another ongoing imperative. Managers should investigate every option — solar, co-generation, especially geothermal wherever even marginally possible. Long term, though, demand must be reduced. Reducing the demand for electrical resources can be advanced almost invisibly as part of the normal IT procurement cycle.
4. **Reduce consumption** - Conduct a baseline assessment of energy use at the most granular level an FSP can arrange — determine and control actual resource use rather than what is being (often politically) assigned as a part of general and administrative expenses.
5. **Reduce outputs** - Disposal of used IT equipment is becoming more of a problem than owning it. You shouldn’t buy from IT equipment vendors without audited take-back and disposal programs.

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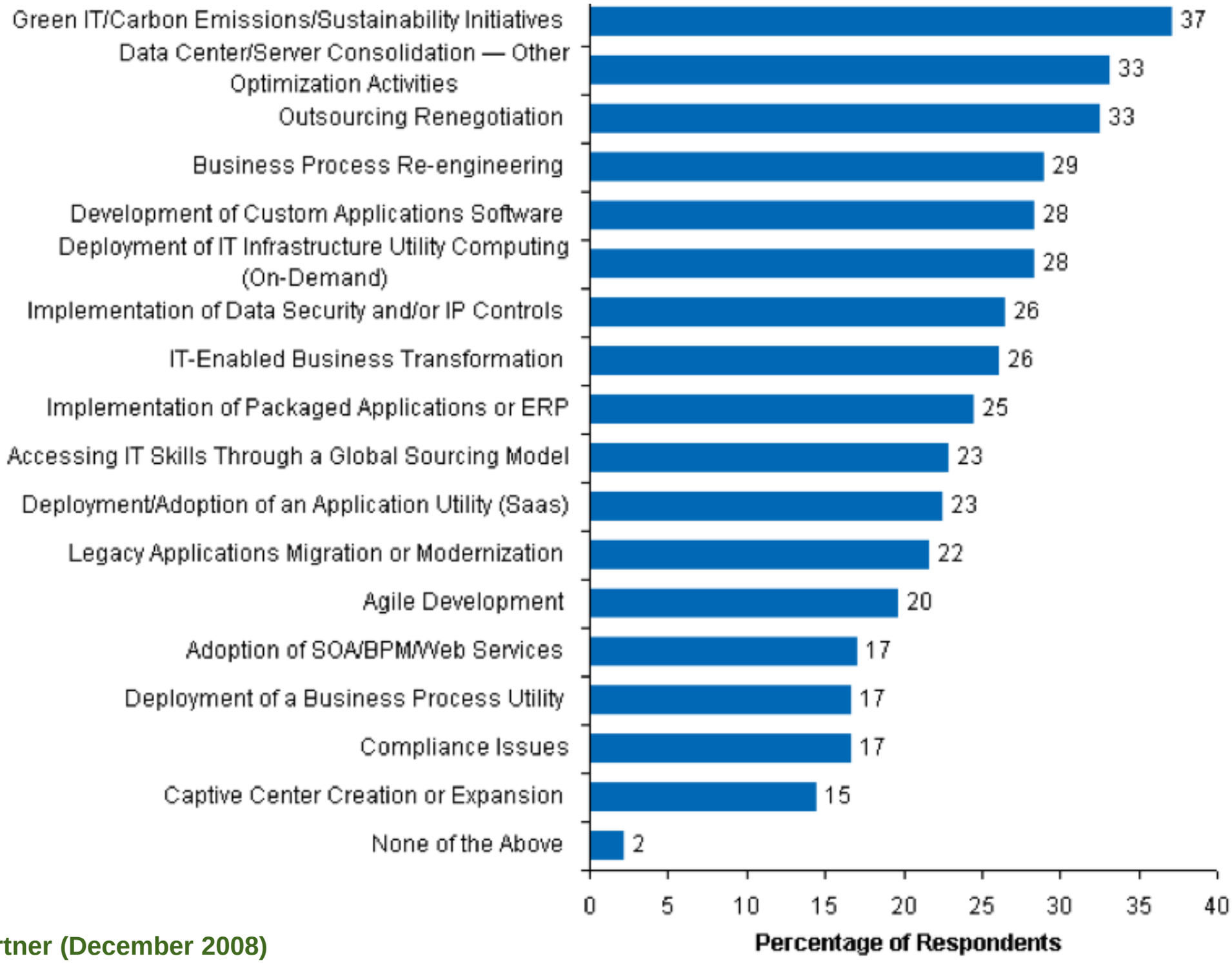
Key IT Organization Initiatives in Europe



Source: Gartner (December 2008)

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Focus on IT Outsourcing and Green IT Is Growing

- Willingness of end-user organizations to reduce the carbon footprint tops the list of organizations' key initiatives for the next months. This underscores the desire to reduce energy costs and fill in green company policies and concerns.
- The interest in green IT related to outsourcing is primarily focused on achieving energy and cost savings, and IT efficiency in general.
- Although environmental performance is considered to be a significant criterion, it remains below the usual suspects of price and technical capability during the evaluation and selection process of IT outsourcers. However, in the future "green compliance" will be considered an important factor to renew deals or avoid contract termination.
- The focus on environmental sustainability is here to stay, and its impact on IT outsourcing (ITO) is irreversible. Thus, services providers must continue to develop their long-term strategy around environment sustainability and support the enhancement of their business operations and ITO offerings.
- Enterprises involved in ITO initiatives should clearly define their environmental priorities and targets as part of their sourcing strategy and not as an afterthought. This likely includes targets to reduce power consumption and carbon dioxide emissions (in the data center, client computing, network and printing, among others).

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Green IT Services - A Catalyst for Cost Optimization

- The benefits of IT optimization are often in alignment with and overlap with the benefits of cost cutting and a greener IT organization.
- While enterprises should not confuse or conflate their cost optimization and green initiatives, there is a significant overlap between the two programs.
- Where optimization programs result in higher levels of energy efficiency, material efficiency, reduced greenhouse gas (GHG) emissions, or better life cycle management of the assets, then there is an overlap between the agendas, but you need these caveats in place to optimization before you can start making the connection to improved environmental performance.
- Because many IT optimization and green IT goals are well-aligned, cost savings expectations of 16% to 24% will be realized by many early initiatives.
- While green issues are a primary driver in 10% of current data center outsourcing and hosting initiatives, cost reductions initiatives are a driver 47% of the time and are now aligned well with green goals. Combining the two means that at least 57% of data center outsourcing and hosting initiatives are driven by green.

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Green IT - How to Do It?

- IT consolidation (servers, storages), virtualization
- Energy Audit
- Energy Monitoring
- Implementation of best practices
- Improved cooling air flow
- Proper dislocation of CRACs and air grill tiles
- Proper dislocation of racks – cold/hot isle
- Temperature increase, humidity decrease (in accord with hardware limits) – higher cooling efficiency

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Expectations through 2012

- ✓ Proven "green" features will emerge as a serious planning and procurement criterion by 2009, and grow in proportion with rising energy and resource costs.
- ✓ Tighter regulations will emerge regarding energy use and load shedding, and rolling blackouts/brownouts may be imposed.
- ✓ Aggressive management will attempt to reduce consumption of all resources. The raw materials requisite for high technology are increasingly expensive, though prices may temporarily stabilize as low-concentration sites become economical to exploit. Begin re- engineering of business processes to reduce waste.
- ✓ A rise of interest in activity-based costing and business process re-engineering will raise the cost and reduce availability of staff candidates with these "hot" skills. Start training or hiring now. Shortages will also develop for "environmental" and "conservation" specialists, especially formally credentialed engineers.
- ✓ The impact of "resource shortages" will be a required concern for business continuity plans. Start looking for multiple, reliable power sources for purchase individually or by consortia.

Recommendations

Don't expect:

- The problem to go away.
- Major technology breakthroughs — such as off-grid solar-powered data centers — though every sort of "demonstration project" will be advocated, subsidized and tried.
- While they may occur, many of the requisite resources (rare earths and so on) are in very short supply or are concentrated in China and Russia. Industry spin-up and widespread adoption of new energy-saving processes could take decades.
- Outsourcing of processing to "lower energy cost" regions to solve an organization's problem. Energy costs are rising worldwide, and already exceed most governments' abilities to subsidize.

Regardless of the soundness of the underlying science or economics, "greenism," environmental sustainability and skyrocketing resource costs are firmly emplaced trends that must be addressed by strategic planners. Each institution's response must suit its unique niche and set of practices, while reflecting immediate stakeholder concerns. Most efforts will be invisible and require careful management of publicity and public image to count as successes. Only ongoing "hands-on attention" by senior management can ensure this is the case.

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Implications

During the next 18 months, the primary focus of green IT projects will be on gaining energy efficiency in data centers and in the workplace environment.

During the next three years, the U.S. and European governments will introduce substantially more environmental and green IT standards and regulations that users will need to comply with.

Green IT projects that are tenable in an economically constrained environment should provide a positive financial ROI within 18 months, or should support specific strategic goals aimed at improving enterprise sustainability, if they exist. This approach will quickly separate the "nice to have" green IT projects from the essential ones. It will also focus attention on projects directly aligned to corporate objectives, as well as on cost management metrics when it comes to new acquisitions.

Replacing older servers with newer, more energy-efficient ones will require more-detailed financial analysis. An older server may have close to zero residual value, but may cost a lot in support and maintenance, and may be energy inefficient, resulting in high operational costs. Regular reviews of cost profiles are a useful way to keep the situation in check and isolate systems or servers whose maintenance costs exceed their book value, thereby making them prime replacement targets. A new server is likely to have a smaller footprint and provide a greater workload for every watt of energy consumed, but users will have to find the initial capital cost of purchasing the "greener" machine.

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Contact details:

Sebastian Banica

36, I.G.Duca Street, B1, Otopeni, Ilfov

email: sebastian.banica@omnilogic.ro