
BlueDot+ – Network-level power management

Summary	<p>A network-level power management system for wireless sensor networks which dynamically monitors the data sensed, determines the relationships between measurements and assesses the utility of the data. The system dynamically controls the frequency of sensing and communication to maximise network lifetime whilst achieving application goals.</p> <ul style="list-style-type: none">• Designed to be integrated with wireless sensor network applications• An analysis tool is being developed to estimate network lifetime
Key attributes	<p>The key attributes of the BlueDot+ project are:</p> <ul style="list-style-type: none">• Optimises data gathering in wireless sensor networks to minimise power use• Uses novel prediction and scheduling techniques• Result so far show that the method can extend network lifetimes by ca. 9x-25x whilst incurring a measurement error of around 1-2%• Fault tolerance & how the approach scales to large/dense networks are being investigated
Potential opportunities	<p>Opportunities for exploiting the BlueDot+ approach are being investigated in the final year of the project (to August 2010). These opportunities could include:</p> <ul style="list-style-type: none">• A wireless sensor systems integrator with a proprietary network protocol stack who could adopt the approach and incorporate it into their products• Investigation of whether the approach can fit within the 802.15.4 standard
Possible application areas	<p>The BlueDot+ approach could be applicable to a range of wireless sensor markets where there is sufficient value in extending network lifetime:</p> <ul style="list-style-type: none">• Large, relatively dense networks where there is significant scope for the BlueDot+ approach to save power and provide useful benefits• Example application areas could be in environment or agriculture monitoring

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