

Transition

SBIR Topic Number:

AF03-094

SBIR Title:

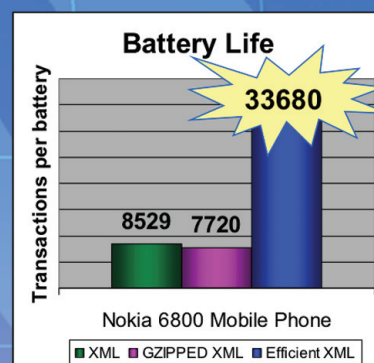
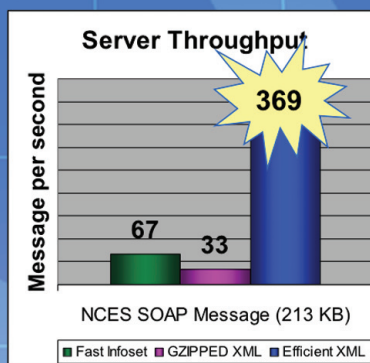
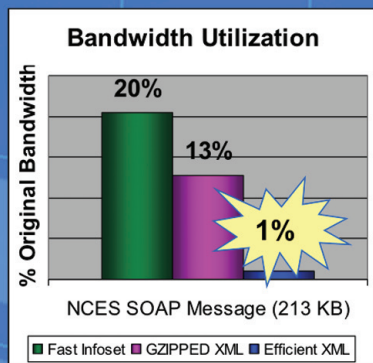
Efficient XML: Taking Net-Centricity to the Edge

Contract Number:

FA8750-04-C-0095

SBIR Company Name:AgileDelta, Inc.,
Bellevue, WA
www.agiledelta.com**Technical Project Office:**AFRL Information
Directorate, Rome, NY

An example of Air Force supported SBIR/STTR technology that has been transitioned into an Air Force or other DoD system or subsystem or used by Air Force test ranges and facilities or maintenance depots.



Efficient XML™ provides levels of performance never before possible

Expanding Net-Centric Systems and Capabilities to Tactical Environments

- The Department of Defense (DoD) needs a way to bridge the interoperability and capability gaps between Net-Centric systems and tactical systems in order for information to flow rapidly and seamlessly between command centers, aircraft, and other systems and organizations
- AgileDelta has commercialized Efficient XML as a set of broad-based, commercial off-the-shelf (COTS) products used by both defense and commercial customers, including the U.S. Air Force, U.S. Navy, U.S. Army, U.S. Marine Corps, the North Atlantic Treaty Organization (NATO), and several defense prime contractors
- AgileDelta developed a breakthrough data optimization technology, called Efficient XML™, which optimizes the bandwidth and resource utilization of Net-Centric data standards to levels far beyond those previously possible
- Commercial industry's World Wide Web Consortium (W3C) identified Efficient XML as a best-of-breed and adopted its Efficient XML Interchange (EXI) format as the global web standard for highly efficient data exchange

Commercialization Pilot
Program Series

20110622

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DISTRIBUTION A:
Approved for public
release; distribution
unlimited.

Air Force Requirement

The Department of Defense (DoD) is rapidly shifting to Net-Centric operations. The open XML and web-service standards that form the basis for Net-Centric data standards are broadly supported by industry and provide unprecedented interoperability, capability and cost savings. Unfortunately, these industry standards were not designed for tactical environments and require 10 to 100 times more bandwidth and processing resources than previous tactical data standards.

The DoD needs a way to bridge the interoperability and capability gaps between Net-Centric systems and tactical systems with limited bandwidth and computing resources. Information needs to flow rapidly and seamlessly between command centers, aircraft, vehicles, Special Operations Force (SOF) units, ships, etc., without a series of expensive, special-purpose gateways and without forcing tactical users to use out-dated, less-capable, slowly evolving technologies.

SBIR Technology

AgileDelta, a SBIR company co-founded by technology veterans from Microsoft and MITRE, developed a breakthrough data optimization technology to address this issue. The technology, called Efficient XML™, optimizes the bandwidth and resource utilization of Net-Centric data standards to levels far beyond those previously possible. It is the first technology capable of optimizing XML and web-services to levels that consistently meet or exceed the DoD's best tactical data formats. As such, it enables deployment of Net-Centric systems and capabilities to the most demanding tactical environments and enables broad interoperability across command centers, aircraft, ships, vehicles, ground troops, and satellites using inexpensive, open Net-Centric data standards.

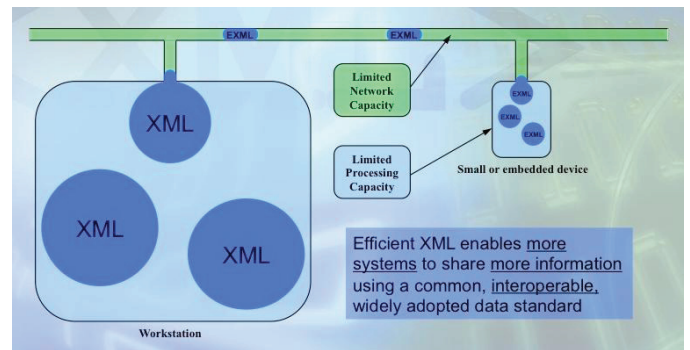
Independent tests by the Air Force, Navy, and Army measured over 100-fold improvements in bandwidth utilization and transfer speeds using Efficient XML. Efficient XML dramatically accelerated Air and Space Operations Center (AOC) systems and enabled deployment of Net-Centric data standards to live aircraft, ships, vehicles, SOF units, and satellite systems. Independent tests by the World Wide Web Consortium (W3C) found Efficient XML consistently outperforms previous XML optimization technologies, compression technologies, and even packed binary data formats.

Efficient XML includes plug-ins that instantly optimize Net-Centric systems without changing a single line of code.

The plug-ins automatically detect and use Efficient XML where available or otherwise fall back to traditional XML, meaning that they can be deployed incrementally with no disruption to existing systems.

Transition Impact

AgileDelta has commercialized Efficient XML as a set of broad-based, commercial off-the-shelf (COTS) products used by both defense and commercial customers. Defense customers include the Air Force, Army, Navy, Marine Corps, North Atlantic Treaty Organization (NATO), Lockheed Martin, Northrop Grumman, BAE Systems, and many others. It has been proposed as a standard for airborne networking and is being integrated in military fighter aircraft. Efficient XML has also significantly reduced system development costs by enabling common Net-Centric solutions built on open standards to be used across all operating environments.



Efficient XML extends the reach of Net-Centric capabilities to limited tactical environments.

Commercial industry's venerable W3C identified Efficient XML as a best-of-breed and adopted its Efficient XML Interchange (EXI) format as the global web standard for highly efficient data exchange. The Smart Grid energy initiative has also adopted it as the standard for electric vehicles, smart energy meters, and smart energy appliances. AgileDelta's commercial customers for Efficient XML include a range of companies in the automotive, smart-grid, mobile device, financial, and enterprise software industries.

Company Impact

"The SBIR program accelerated the development of Efficient XML and the EXI standard," states John Schneider, AgileDelta's founder and chief executive officer. "It helped to prove the technology on a wide range of demanding tactical applications and has facilitated technology transition to key Air Force and DoD programs."



SBIR/STTR

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