Hothouse
where business meets innovation

OPTIN: Optimised Data Transfer for Improved Network User Experience

Product Offering

Researchers from Dublin Institute of Technology have developed a novel software tool to optimise data transfer on both wireless and wired networks.

OPTIN maximises the level of data transfer and minimises delays to ensure a seamless Internet user experience.

The technology is particularly useful for rich media content, such as VoIP and video that requires a reliable and uninterrupted network service.

Competitive Advantages

- **Higher Data Throughput:** By closely matching target data amounts with network transfer capabilities, the software improves the level of data transfer within any network by up to 25%.

- **Maximum Efficiency:** The software is superior to existing solutions as it maximises throughput while minimising delays in data transfer. Existing solutions cannot perform both of these functions simultaneously.

- **Highly Responsive:** The software responds rapidly to traffic flow changes, reducing fluctuations in network capacity and guaranteeing consistent, high quality user experience.

- **Network Compatibility:** The technology is compatible with all wireless and wired networks including next-generation Wi-Fi, such as IEEE 802.11n and IEEE 802.11ac.

- **Cost Reduction:** Improved operating efficiency and reduced network delays and outages ensures that this technology will ultimately yield substantial costs savings for network equipment manufacturers.

Industrial Applications

OPTIN is commercially applicable to any wireless or local area network equipment manufacturer seeking to significantly improve data transfer performance.

Commercial Opportunity

DIT Hothouse is seeking a suitable commercial partner to take this innovative new technology to market.

Growing Intenet usage worldwide, evolving rich media content and VoIP technology along with high speed networks makes *OPTIN* an ideal solution for developers of network solutions. As this is also a highly competitive environment, subject to rapid technological change, competitive advantage is key. *OPTIN* gives companies the opportunity to differentiate their offerings and gain commercially by improving user experience.

DIT Hothouse offers excellent commercial terms to licensees on technologies developed through DIT research.

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Stage of Development

A prototype has been developed, tested and executed in order to validate the proof of concept. Demonstration software is available and the technology is patent-pending.

Technology Description

Traffic Manager uses a smart aggregation algorithm known as the *Adaptive Aggregation Mechanism* (AAM) to optimise the trade-off between maximising data throughput and minimising delays in data transfer.

The AAM responds to the varying nature of data packet size and the packet arrival time in buffer. It works by assembling the maximum size aggregate data packet in the minimum time period. Therefore, a single aggregate data packet transferred over a network will be as close to its target size as possible and below an acceptable delay period that would otherwise disrupt perfomance and network user experience.

Project Team

The technology was developed through research undertaken by DIT's Communications Network Research Institute (CNRI). The project team is led by:

- **Dr. Mark Davis (Principle Investigator)**

  Dr. Mark Davis is the Principal Investigator and project director at the Communications Network Research Institute (CNRI) at the DIT. The main theme of the research carried out at the CNRI is the delivery of QoS for real-time services such as VoIP telephony and video streaming. The CNRI has developed a number of tools for estimating user satisfaction with VoIP and streamed video applications, as well as a patented application for managing the bandwidth on WLANs

Intellectual Property

The Intellectual Property associated with this technology was created in Dublin Institute of Technology and is currently patent-pending.

Next Steps

If you would like to learn more about this technology or discuss commercial opportunities, please contact:

**Paul Maguire, Licensing Executive, DIT Hothouse on
01 402 7002 or email paul.maguire@dit.ie**

DIT Hothouse is the award winning Innovation and Technology Transfer Centre based in Dublin Institute of Technology. Hothouse leads the consortium responsible for commercialising research from DIT, IT Tallaght, IT Blanchardstown, IADT and National College of Ireland.

Hothouse draws in entrepreneurial and academic talent, ignites creativity and provides a dynamic environment to fast-track businesses and technologies to commercial success.

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