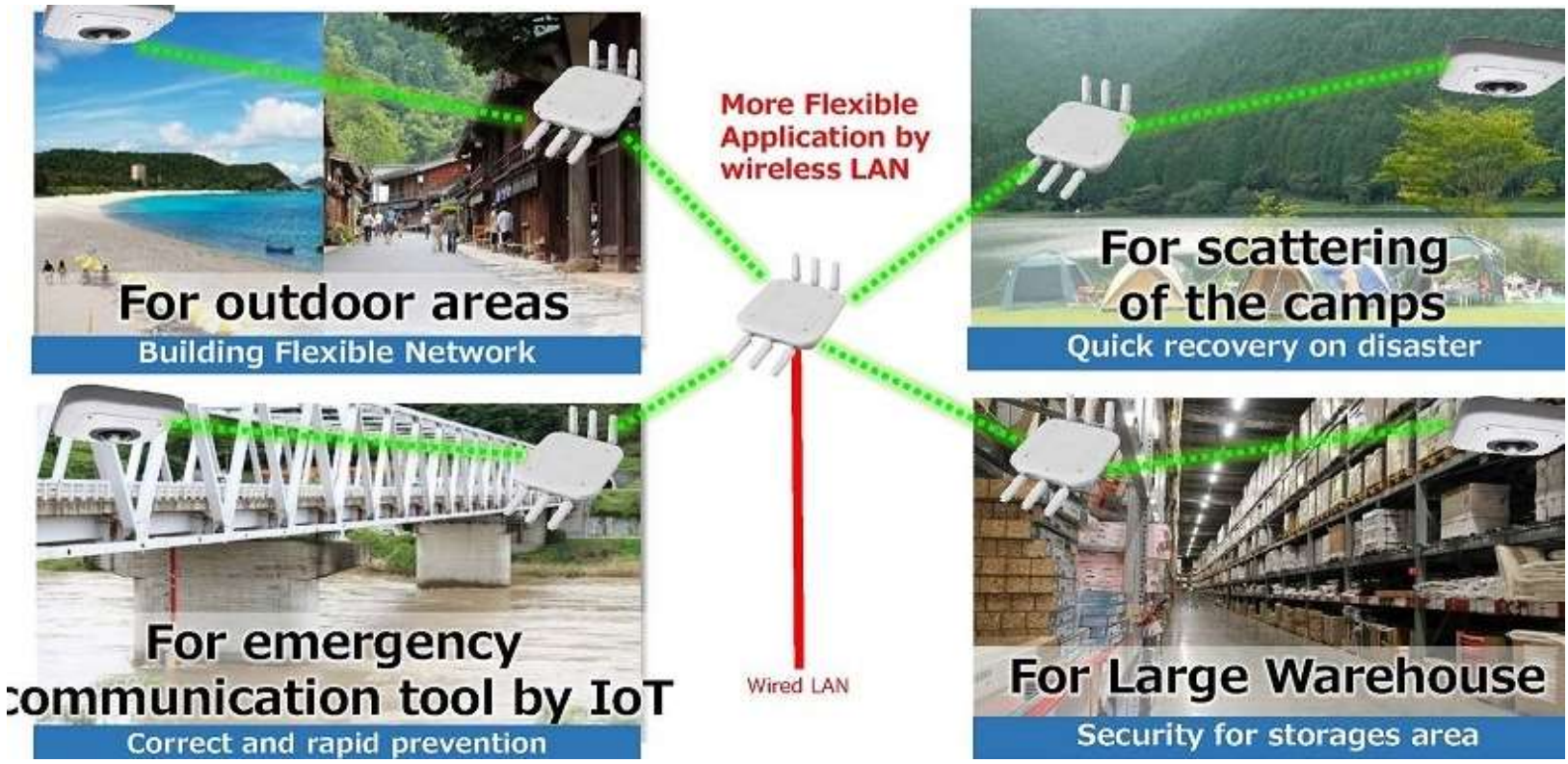


Courtesy Sharp Electronics, Japan (MeshDynamics Source Code Licensee 2015)

Evolutionary Mesh Networks ™

First depicted in simulation, 2002, driving embedded software architecture
2014-2017: Working prototype source code delivered to OEMs (e.g. Sharp)
2017-2020: OpenWRT code base for Disruption Tolerant Networks:

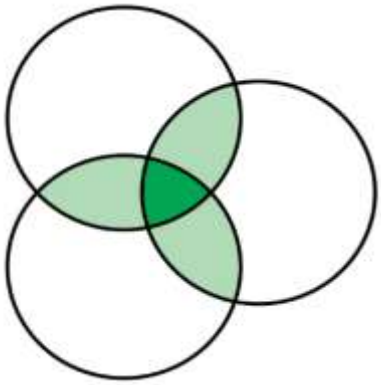
Disruption Tolerant Network (DTN) Features:

User level publish-subscribe apps: Simplify Kernel, to scale down for "Chirp".
Logical Radios– assign logical radio modes to multi-radio or single -radio
Dynamic configuration of "Model number" based on changing environment
Disruption Tolerant – e.g. proactive fail over, no packet loss. DTN Hospital
Validation Test bed -- with real and virtual mesh nodes and "app" framework.

Please also visit :Patent Docket List and Seeking Patent Licensing Agent

Dynamic Tree Topology
- *Many Hops, Mobility*
- *Disruption Tolerance*
- *Learning Resilience*

Abstractions
- *Radio Card Agnostic*
- *Single & Multi-radio*
- *Application Pub-Sub*

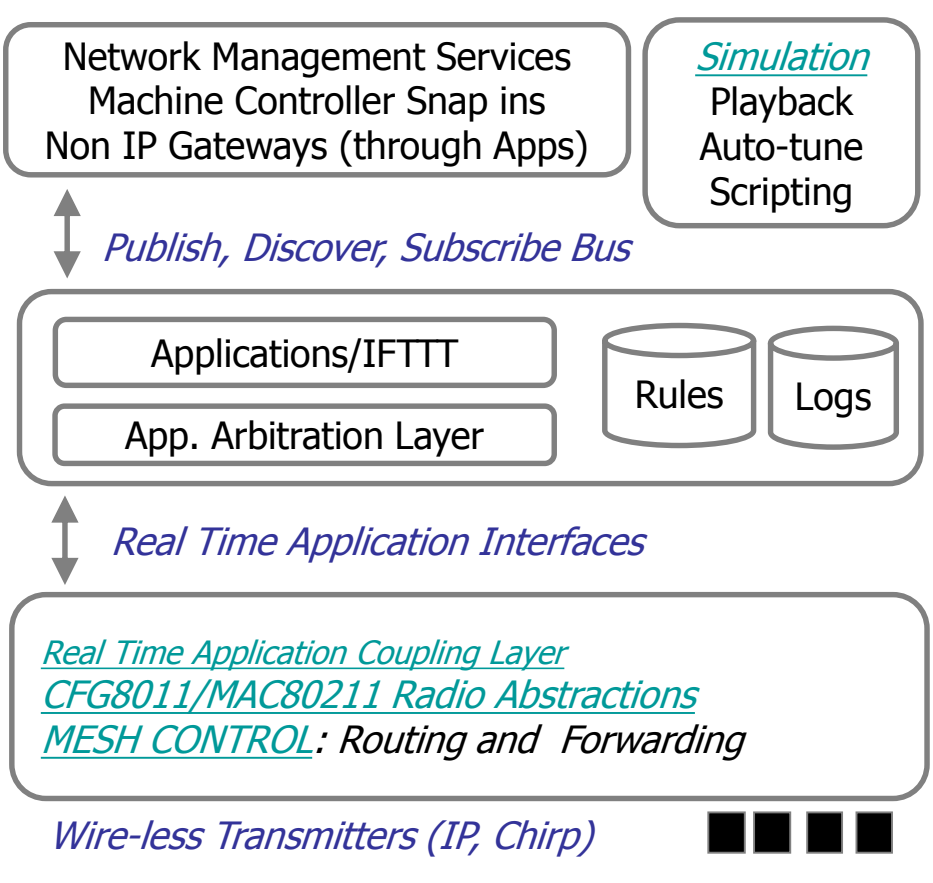


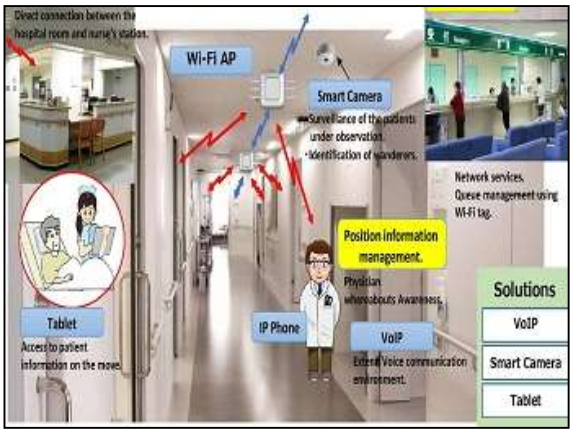
Real Time "Fog" Computing
- *Real Time Data Streams*
- *Time Sensitive Networks*
- *Collaborative Scheduling*
- *PLC replacement in Node*
- *Industrial Internet Integration*

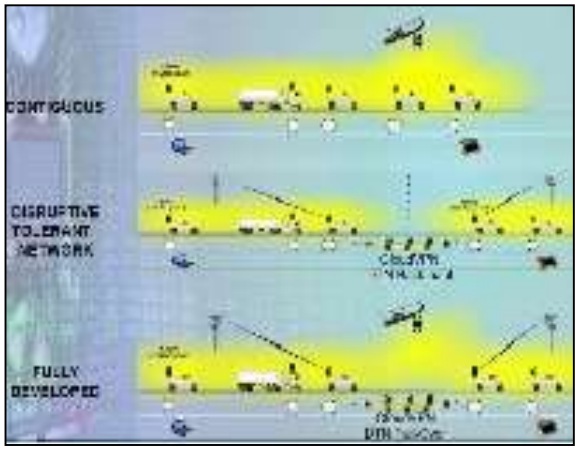
MeshDynamics Intellectual Property **

J01. Issued 08.07.2017	Terse Message Networks
J02. Issued 06.07.2016	Chirp Networks
J03. Issued 02.09.2016	Chirp Networks
J04. Issued 10.27.2015	Collaborative Logistics Ecosystem: Extensive Framework For..
J05. Issued 06.02.2015	Real Time Packet Transforms To Avoid Re-Transmissions
J06 Issued 04.28.2015	Self Forming VoIP Network
J07. Issued 03.10.2015	Persistent Mesh for Isolated, Mobile and Temporal Networking
J08. Issued 12.30.2014	Chirp Networks
J09. Issued 08.27.2013	Persistent Mesh for Isolated, Mobile and Temporal Networking
J10. Issued 08.20.2013	Real Time Packet Transforms To Avoid Re-Transmissions
J11. Issued 07.02.2013	Self Forming VoIP Network
J12. Issued 06.11.2013	High Performance Mesh Networks- Switch Stack Paradigm
J13. Issued 02.22.2011	Mobility Extensions for Wireless Multiple Radio Mesh
J14. Issued 02.08.2011	High Performance Wireless Networks Distributed Control - Cont.
J15. Issued 09.01.2009	Managing Jitter and Latency in Wireless LANs
J16. Issued 09.02.2008	High Performance Wireless Networks Using Distributed Control
J17. Filed 02.28.2018	Evolutionary Wireless Networks
J18 Filed 02.15.2018	Chirp Networks (Continuation)

Please also visit :Patent Docket List and Seeking Patent Licensing Agent







MeshDynamics, has developed and is testing an evolutionary wireless network concept, where the simulation world and real world are in lock step. Machine learning begins at the simulation end, and drives auto tuning algorithms to meet specific difficult use case scenarios.

The refined scripts and applications are then uploaded to real mesh nodes to complete the iterative loop. The mesh nodes, through rudimentary publish/discover/subscribe messaging, emulate SDN philosophy for low power devices at the edge.

Nodes resident trusted applications publish real time sensor streams for consumption primarily by other apps in the network. All streams are aggregated at the root nodes and transmitted to big data servers for analysis -- when connected.

Applications customize/tune network behavior, communicating with supervisory apps running on the cloud or a local computer. The distribution of resources (power, bandwidth) is managed collaboratively through the application layer. This keeps the Kernel simple. Java source code for the NMS and Heart Beat protocol are offered as an illustration of how applications on mesh nodes may publish and listen with their own proprietary heart beat protocols. See also:

Collaborations Welcomed Dynamic Tree Topologies Self Classified Chirps Smart Simulations