DTN Reference Implementation Update

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Outline

- Status
- 2.3.0 Release plans
- TierStore
- Future Directions

Implementation Status

- ~64,000 Source Lines of code
  - (reported by David Wheeler's SLOCcount)
- Complete (almost) implementation of the latest Bundle Spec v4 Internet Draft
- Ported to Linux (x86 and ARM), Mac OS X (PPC and x86), FreeBSD, Windows (Cygwin)
- Active development / user community
  - 100 subscribers to dtn-users mailing list

2.3.0 Release (coming soon)

- Reimplemented and documented bidirectional TCP convergence layer
- Revamped protocol core with support for unknown extension blocks
- Previous hop extension header
- External router interface (MITRE)
- External convergence layer interface (BBN)
- Bluetooth convergence layer (Jeff Wilson)
- Neighbor discovery using UDP / Bluetooth?

TierStore

- Distributed storage system atop DTN
- Publish/subscribe data model
- Filesystem interface using FUSE
- Loose single-object coherence (not multi-update consistency) focus
- Multicast-like file distribution tree
- Offline web, email, file distribution, disconnected CVS apps implemented
- NSDI submission under review

Future Directions

- Previous Hop header to identify where a bundle came from
- Integrate security implementation
- Persistent link / contact history database
- Bundle link queues to cross outages
- Enhanced route matching hooks
  - Input link, priority of bundle, source eid, etc
- Prophet implementation (Jeff Wilson?)