Re-chartering the DTN Working Group

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Introduction

- As you are hopefully all aware, the Working Group has almost completed all the work items in its current charter.
- In order to continue, a new charter is required, and this charter must be agreed by the Area Directors and IESG.
- Consensus of the working group is needed, as it is obviously important that there is sufficient interest in actually doing the work in the new charter.
- It is also important that there is consensus within the Working Group that the charter covers items that are ready for standardisation, and are not just “fun things to write about”.
- Over-reaching with work items is not a good plan. The IESG will quite rightly question the effectiveness of a Working Group if work items are not addressed in a reasonably timely manner.
- There is also push-back from the IESG against informational documents for document’s sake. The IETF is not a journal publisher, so documents must have value.

Current Charter

The Delay/Disruption Tolerant Network Working Group (DTNWG) specifies mechanisms for data communications in the presence of long delays and/or intermittent connectivity. Delay-Tolerant Networking (DTN) protocols have been the subject of extensive research and development in the Delay-Tolerant Networking Research Group (DTNRG) of the Internet Research Task Force since 2002. The key documents are the DTN Architecture (RFC 4838), the Bundle Protocol (RFC 5050), Licklider Transmission Protocol (RFC 5326) and convergence layers (RFC 7122, 7242). Multiple independent implementations exist for these technologies and multiple deployments in space and terrestrial environments. There is an increase interest in the commercial world for these technologies, for similar and different use cases, such as unmanned air vehicles. In this context, there is a need to update the base specifications, i.e., RFC 5050, RFC 7122, RFC 7242, RFC 6257 and RFC 6260, based on the deployment and implementation experience as well as the new use cases. Moreover, there is also a need to have standards track documents for the market.

Therefore, the purpose of this working group is to update the base specifications in light of implementation experience. The group shall do a review of deployment problems and lessons learned, come to consensus on the issues to be addressed in the base protocol documents, and update the specifications accordingly. The group shall not endeavour to change the underlying architecture or the bundle protocol principle.

Work items are:

- Agree to a list of use cases for evolving the DTN specifications and a list of work items to be worked on.
- Create updates to RFC5050, convergence layer RFCs, and security (RFC6257), as standard track documents.
- Document a registry for DTN Service Identifiers.

Proposed new charter

The Delay/Disruption Tolerant Network Working Group (DTNWG) specifies mechanisms for data communications in the presence of long delays and/or intermittent connectivity. The Working Group has submitted the Bundle Protocol v7 (BPv7), corresponding Bundle Protocol Security protocol (BPSec) and interoperable Security Context, and the TCP Convergence Layer documents to the IESG for publication as standards track RFCs.

The purpose of this Working Group now turns to further work relevant to the area of Delay/Disruption Tolerant Networking, divided into 3 broad categories:

- Standardisation of protocols and capabilities that were defined in the DTN IRTF documents, but excluded from the current output of the Working Group; including an update to the Licklider Transmission Protocol (RFC5326), Bundle-in-Bundle Encapsulation, Quality of Service indication, and Custody Transfer for reliable bundle delivery.
- The definition of protocols and best practice in the areas of Naming, Addressing and Forwarding, Key Management, and Operations, Management and Administration (OAM); including the standardisation of the Asynchronous Management Protocol (AMP).
- Extensions to existing protocols, including Extension Blocks to add additional capabilities to Bundle Protocol, additional Security Context definitions for BPSec, and new convergence layer adaptors.

New work item documents

Work Item	Document
Update to LTP	LTP Fragmentation https://datatracker.ietf.org/doc/draft-templin-dtn-ltpfrag/
Bundle-in-Bundle Encapsulation	Bundle-in-Bundle Encapsulation https://datatracker.ietf.org/doc/draft-ietf-dtn-bibect/
Quality of Service indication	Bundle Protocol Extended Class of Service (ECOS) https://datatracker.ietf.org/doc/draft-burleigh-dtn-ecos/
Custody Transfer	
Naming, Addressing and Forwarding	
Key Management	Architecture for a Delay-and-Disruption Tolerant Public-Key Distribution Network (PKDN) https://datatracker.ietf.org/doc/draft-viswanathan-dtn-pkdn/
Asynchronous Management Protocol	Asynchronous Management Protocol https://datatracker.ietf.org/doc/draft-birrane-dtn-amp/
New Extension Blocks	
Additional Security Contexts	DTN Bundle Protocol Security COSE Security Context https://datatracker.ietf.org/doc/draft-bsipos-dtn-bpsec-cose/
New Convergence Layer Adaptors	Delay-Tolerant Networking UDP Convergence Layer Protocol https://datatracker.ietf.org/doc/draft-sipos-dtn-udpcl/