

neat

NEAT Policy

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NEAT - Key Features

- Single API to transport
- Single-Sided deployment
- Callback Driven
- **Policy**
- Multistreaming
- Multipath
- Security



Terms

- **Application Requirement**
- **Transport** - transport protocol to try
- **Path**
 - **Interface** - physical network interface
 - **Source Address** - IP address on interface
 - **Destination Address**
- **Candidate** - triple of above (Interface, Path, Transport)



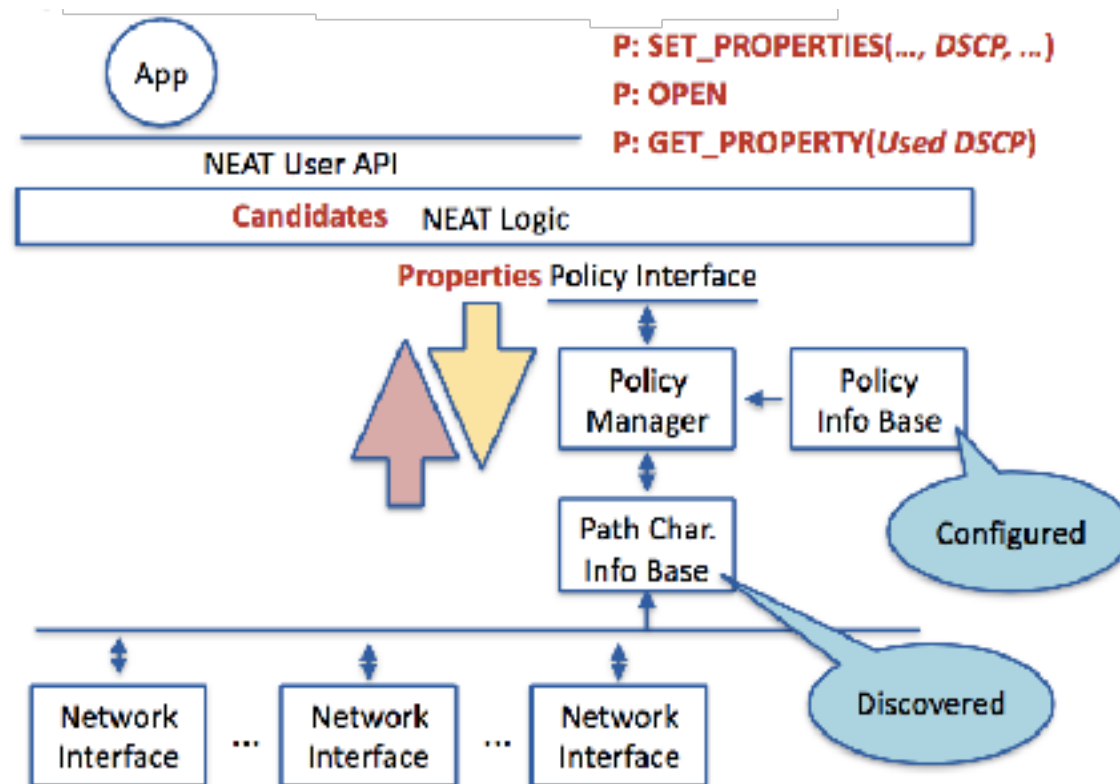
Really quite easy

- Give me a reliable transport on a low latency path



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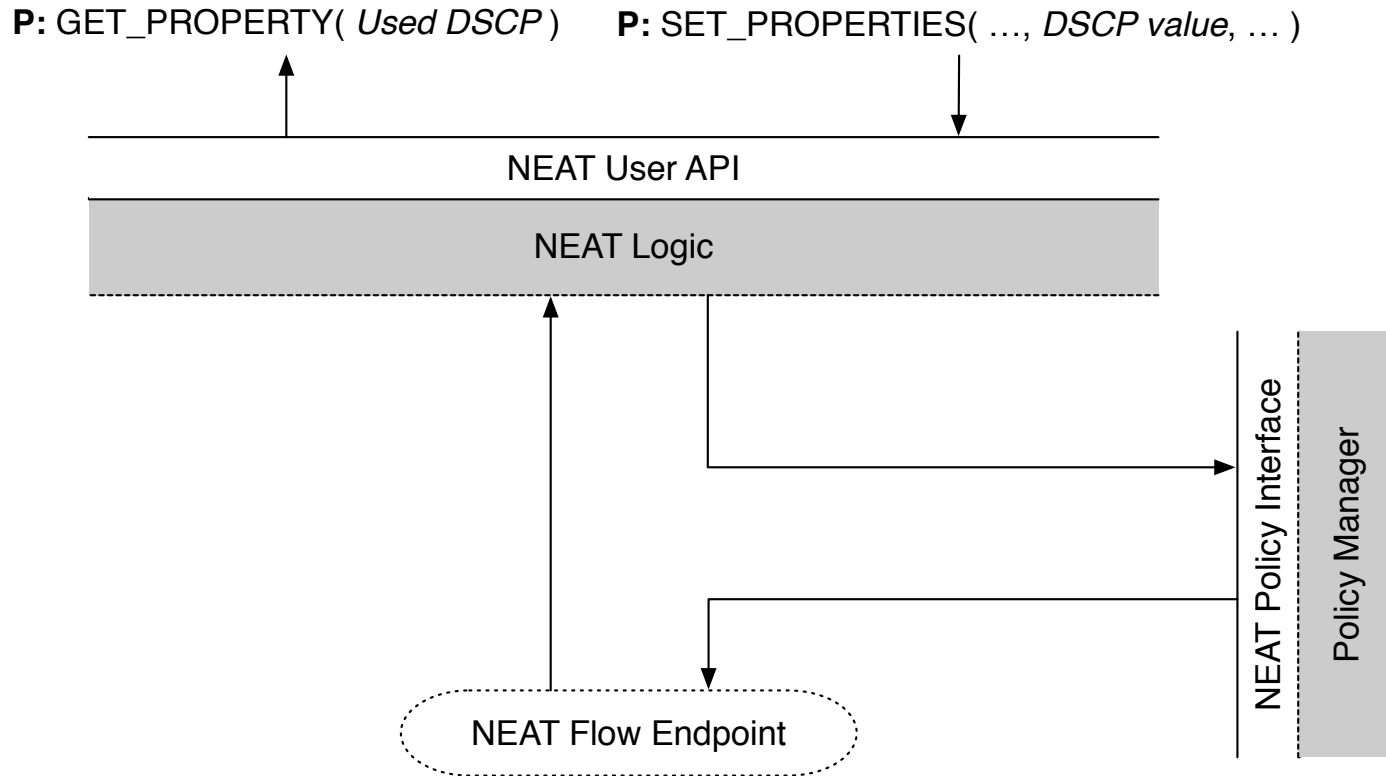
- Give me a reliable transport on a low latency path



Devil is in the details

- Give me a reliable transport on a low latency path
- Give me (TCP, MPTCP, SCTP, QUIC) on a path with latency of ($<5\text{ms}$), with small networking buffering, high capacity, etc ...
- A comprehensive method is too hard to standardise at the moment

NEAT Policy API Interface

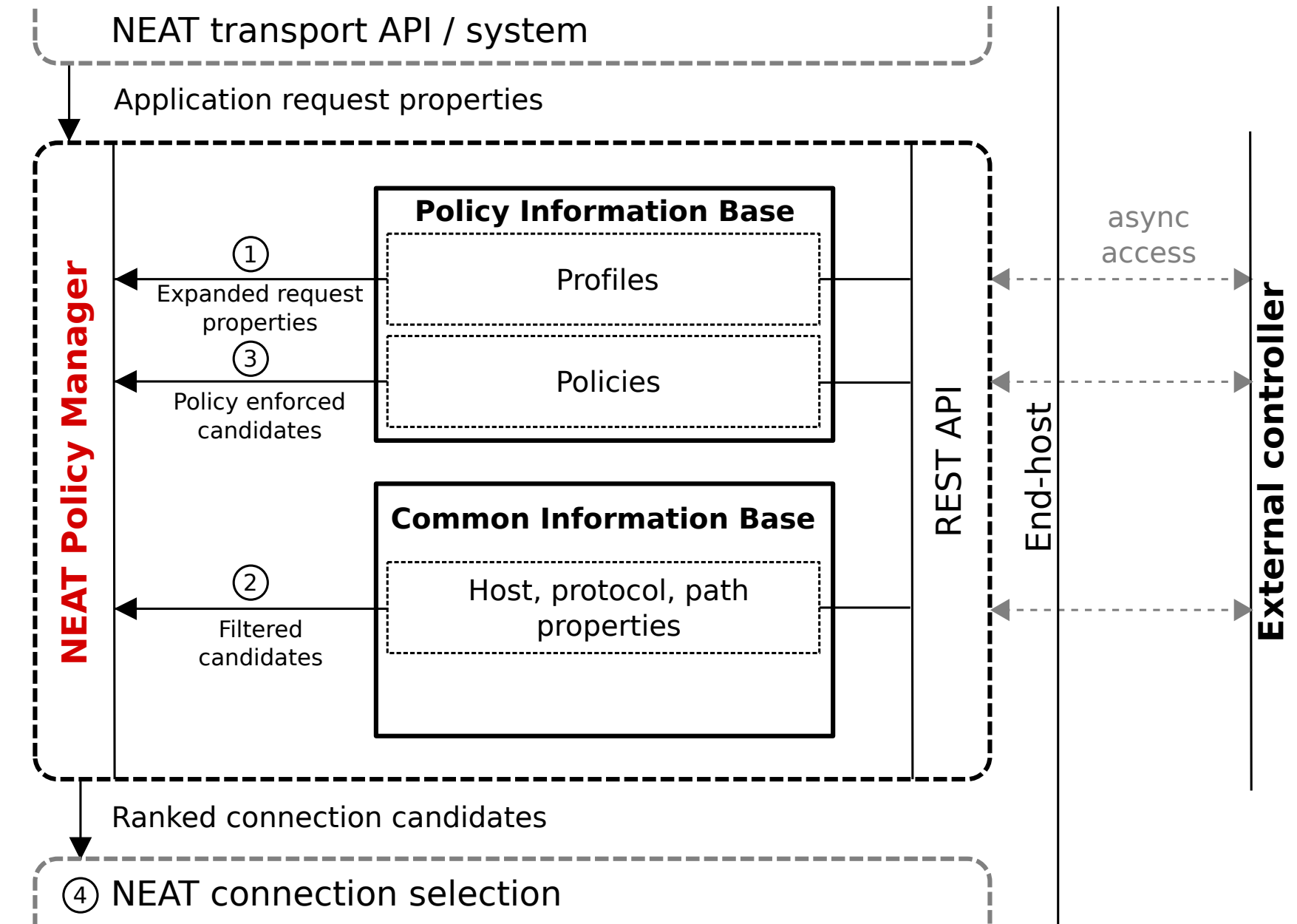


Policy Manager Components

- Rules Engine
- Policy Information Base
 - Configured
- Characteristics Information Base
 - Discovered

Information Base Properties

- **Per Interface**
 - Transport protocols
 - Latency
 - Message size
 - ...
- PvD carries very similar information



Lessons Learned

- CIB collects highly useful information for selection
- Maintaining the CIB is difficult
 - Entries change over time
 - Entries may be removed, validity checked and new properties added
- Solution depends on the context
 - SDN is different to Mobile

Recommendations to TAPS

- Architecture needs to capture basic features of a policy system
 - External interfaces help with evolution
- A comprehensive method is too hard to standardise at the moment
- High level abstraction is very powerful (reliable, low latency, high capacity...)

Questions?

More on NEAT

- <https://neat-project.org>
- <https://github.com/neat-project/neat>
- <https://tools.ietf.org/html/draft-fairhurst-taps-neat-01>
- <https://tools.ietf.org/html/draft-grinnemo-taps-he-03>



