Big Ideas for MQTT v5

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Big Ideas for In Scope section in Charter

- **Enhancements for Scalability and Large Scale Systems** - includes the ability to communicate functional levels, define optional functions, and control resource usage.

- **Improved Error Reporting** - allows error indications to be returned by both client and server and the definition of additional return values.

- **Extensible Metadata** - allows added data fields on packets including data whose use is not defined by MQTT (application-extensible)

- Added Support for **Resource Constrained Clients** and **Performance Improvements**

Big Idea(s)	Jira	Notes
Enhancements for Scalability	MQTT-276: MQTT enhancements for large scale distributed systems	This big idea has dependencies on both Improved Error Reporting and Metadata.
Enhancements for Scalability Improved Error Reporting	MQTT-236: Consolidate Acks, enable negative acknowledgements	
Extensible Metadata	MQTT-256: Message format indication	
Enhancements for Scalability Improved Error Reporting	MQTT-270: MQTT-SN Feature: server initiated disconnects	
Extensible Metadata	MQTT-197: Request / Reply MEP	
Resource Constrained Clients and Performance Improvements	MQTT-235: NoLocal subscriptions for MQTT subscribers	
Enhancements for Scalability Extensible Metadata	MQTT-249: Add expiry capabilities	

Big Idea(s)	Jira	Notes
	MQTT-203: MQTT URI Scheme	Recommendation: Change to Committee Note per comments in issue
Enhancements for Scalability	MQTT-234: Shared subscriptions	
Enhancements for Scalability	MQTT-257: Flow control	
?	MQTT-255: Support for alternate authentication mechanisms	
Resource Constrained Clients and Performance Improvements	MQTT-268: MQTT-SN Feature: Sleeping Clients	
Resource Constrained Clients and Performance Improvements	MQTT-269: MQTT-SN Feature: Topic Registration	

Big Idea(s)	Jira	Notes
?	MQTT-217: Implementation guidance around overlapping subscriptions	F2F Minutes: *we should really give [implementation] guidance on how this is to be interpreted* Is this a design change or a clarification / Committee Note?
Extensible Metadata	MQTT-251: Return server assigned client id to client	
Improved Error Reporting	MQTT-260: Add CONNACK "try another server"	
Enhancements for Scalability	MQTT-263: Simplified state management	As written, the issue is specific to simplifying the client *cleaning* its session state.
Resource Constrained Clients and Performance Improvements Extensible Metadata	MQTT-271: Describing small device limitations "the arduino problem"	

Big Idea(s)	Jira	Notes
Resource Constrained Clients and Performance Improvements Extensible Metadata	MQTT-252: Support for large message transmission	