



QwyitTalk™ Market Analysis – 2017

- QwyitTalk™ the Qwyit Authentication and Encryption Service, is a direct next generation replication and enhancement of the only global secure communications framework: Transport Layer Security (TLS)
- It operates in *exactly the same way – provided as a Service*, yet uses a fundamentally different underlying method: the Qwyit protocol
- QwyitTalk™ is intended to replace the current, limited operation of TLS by:
 - Following the same fundamental business operating model
 - Paid commercial ‘servers’
 - Free public/end-user ‘clients’
 - Following the same technology model
 - Verified initiation
 - Authenticated handshakes upon every use
 - Session encrypted communications
- QwyitTalk™ improves both the business and technology operating models, and therefore will unleash the proven ‘TLS’ model into new, vertical marketplaces
- **Each QwyitTalk™ technical solution is uniform across all of these markets**
 - The Qwyit.com KDS is a one-time build
 - Then each QwyitTalk™ SDK is market-independent, but of identical form
 - All participants (market clients or commercial servers) get the ‘same’ SDK
 - Each product ‘insertion’ is unique, but of identical form
 - Technical development is streamlined and uniform regardless of market
- **The intent of QwyitTalk™ proliferation (new TLS expansion) is Radical Incrementalism**
 - “It is all about having a long term plan while taking digestible steps towards it in the face of strong and powerful established interests.” – Lloyd Alter

QwyitTalk™ has direct, immediate applicability to the following vertical markets:



Internet of Things (IoT) [No compliance standard]

Market Value:

*Our bottom-up analysis for the applications we size estimates that the IoT has a total potential economic impact of \$3.9 trillion to **\$11.1 trillion** a year by 2025. At the top end, that level of value—including the consumer surplus—would be equivalent to about 11 percent of the world economy (exhibit). – McKinsey & Company*

Security Technology Value:

Security of IoT systems has become one of the biggest challenges, and it is even threatening a global slowdown in the adoption of IoT.

With the exponential growth in connected devices, security of these IoT devices and their data has become an urgent and concerning issue for the IoT industry.

The global market for Internet of Things (IoT) security solutions reached nearly \$3.7 billion in 2016, and it is expected to grow at a compound annual growth rate (CAGR) of 25.6% over the next five years to reach a market size of more than \$11.4 billion by 2021.

- *Hardware-based solutions as a segment reached \$2.8 billion in 2016 and should reach \$8.1 billion by 2021, with a CAGR of 23.4%.*
- *Software-based solutions as a segment reached \$825 million in 2016 and \$3.3 billion by 2021, with a CAGR of 32.0%.*

*The industrial IoT (IIoT) had seen the highest adoption (41%) for IoT security solutions until recently, as the value of lost business due to data security breaches is considered to be high. **Consumer IoT, however, is still lagging in its uptake of security solutions, which is a paradox, as these were the easiest targets for most of the malicious IoT data breaches that took place in 2016. These vertical markets will continue to grow in importance as new niche solutions that address the unique needs of IoT applications emerge in the next five years.***

- Report: [Global Markets for Security Technologies for the Internet of Things \(IoT\)](#)

Security Technology Solutions:

IoT H/W and S/W solutions are PKI based – hence the difficulty and ill-adaptation.

QwyitTalk™ Opportunity:

- QwyitTalk, following the TLS technology model, will be recognized as conforming (no industry-wide IoT standards)
- QwyitTalk™ performance solves PKI issues
- QwyitTalk™ *solution uniformity* makes proliferation into different IoT technology models straight-forward



Client/Server Architectures [Per Industry Compliance]

Three basic areas:

1. Web architecture (Web server and client browser – news, video, websites, blogs, etc.)
2. Content architecture (Server and client browser and/or application (plug-in, or stand-alone) – entertainment, music, video, etc.)
3. Communications architecture (Instant messaging, email, eCommerce, etc.)

Market Value:

Example: eCommerce:

- *Digital interactions influenced retail sales to the tune of \$2.2 trillion in 2015*
- *By 2017, there will be more internet traffic than all prior internet years combined*
- *Hosting Facts rollup of various references*

Security Technology Value:

Examples

- Hot areas for growth are security analytics / SIEM (10%); threat intelligence (10% +); mobile security (18%); and cloud security (50%) according to IDC
- The global managed security services market is projected to reach nearly [\\$30 billion by 2020](#), with a CAGR of 15.8% over the next five years, according to a report from Allied Market Research (AMR)
- The global enterprise governance, risk and compliance (GRC) market is expected to grow from \$5.8 billion in 2014 to [\\$11.5 billion by 2019](#), at a CAGR of 14.6% for the period 2014 to 2019, according to MicroMarketMonitor

Security Technology Solutions:

Almost all use TLS as the security layer within their security platforms, applications, assessment technologies, VPNs, etc.

QwyitTalk™ Opportunity:

- Qwyit, following the TLS technology model, can perform Target Replications
 - o Pick a successful C/S application, replicate it using Qwyit
 - Partner w/product owners and/or penetrate w/free offering
- QwyitTalk™ performance solves all Internet-based latency issues
- QwyitTalk™ *solution uniformity* makes proliferation into different technology models straight-forward



Peer-to-Peer Architectures [No Compliance]

Basic areas:

Software publication and distribution, content delivery networks, streaming media and peercasting for multicasting streams, which facilitates on-demand content delivery. Other applications involve science, networking, search and communication networks.

Network types include pure, hybrid and centralized P2P. Major application examples include: music sharing, content distribution, video and gaming.

Market Value:

Example: Gaming P2P networks

Today, Newzoo released the latest quarterly update of its [Global Games Market Report](#). It shows that 2.2 billion gamers across the globe are expected to generate \$108.9 billion in game revenues in 2017. This represents an increase of \$7.8 billion, or 7.8%, from the year before. Digital game revenues will account for \$94.4 billion or 87% of the global market. Mobile is the most lucrative segment, with smartphone and tablet gaming growing 19% year on year to \$46.1 billion, claiming 42% of the market. In 2020, mobile gaming will represent just more than half of the total games market.— Emma McDonald, Newzoo

Security Technology Value:

A 'vacant' opportunity!

Security Technology Solutions:

P2P security *within the applications* is almost non-existent – this is due to latency issues and architecture. There are a few exceptions, such as Skype using AES in P2P calls and TLS when using their centralized (C/S architecture) services (like chat); but when calls fall outside to mobile and PSTN, encryption stops.

QwyitTalk™ Opportunity:

- QwyitTalk™ can be a centralized TCP destination
- QwyitTalk™ performance solves all content-based latency issues
- QwyitTalk™ *solution uniformity* makes proliferation into different technology models straight-forward



Cellular/Mobile Architectures [No Security Technology Compliance]

Market Value:

\$3.3TN in Global GDP for mobile networks

Security Technology Value:

A 'vacant' opportunity!

Security Technology Solutions:

There are a few, localized cellular solutions (Silent Circle, CellCrypt, etc.), using the equivalent of TLS. They own the entire call – using a private switch. None of these solutions could ever scale using public switching networks – latency, device power requirements, etc.

The only way to scale across multiple, public switching networks is if the available solution required a simple firmware/hardware/software update that incorporates a *uniform, small, fast, efficient SDK library – with a future-protected life cycle.*

This is possible w/QwyitTalk™ with the aid of any/all cell phone manufacturers: by simply putting a QwyitTalk™ SDK library inside each device – even at the hardware level – every call could simply go *through any switch* already encrypted as if in a P2P network.

QwyitTalk™ Opportunity:

- QwyitTalk™ can be a centralized TCP destination for any cell call (for the AH)
- QwyitTalk™ performance solves all content-based latency/switching issues
- QwyitTalk™ *solution uniformity* makes proliferation into different devices straight-forward



Other Architectures [Security Technology Compliance per Industry]

Examples include:

Bluetooth, Near Field Communications (NFC), Satellite Communications, DoD (COMSEC, etc)

Market and Security Technology Value:

NFC example:

According to a new market research report "[Near Field Communication Market by Operating Mode \(Card Emulation, Reader Emulation, & Peer-to-peer\), Product & Software \(Non-auxiliary & Auxiliary\), Industry \(Retail, Transportation, Automotive, & Others\), and Geography - Global Forecast to 2020](#)", the total market is expected to reach USD 21.84 Billion by 2020, at a CAGR of 17.1% during the forecast period. Factors such as the growing adoption of smart devices, trend of mobile commerce, and growth in the production of NFC-enabled mobile phones are driving the market.

Security Technology Solutions:

Within each architecture, there are various security methodologies and technologies used – all of them are current authentication and key encryption techniques. Even within 'new' technologies, such as the EMV-Chip, the underlying security techniques are simple re-configurations of existing auth and encryption techniques.

QwyitTalk™ Opportunity:

- QwyitTalk™ can be a centralized TCP destination for any device/reader/etc
- QwyitTalk™ performance and improved security w/o complexity
- QwyitTalk™ *solution uniformity* makes proliferation into different devices straight-forward