

Uniface TLS Beta driver

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Topics

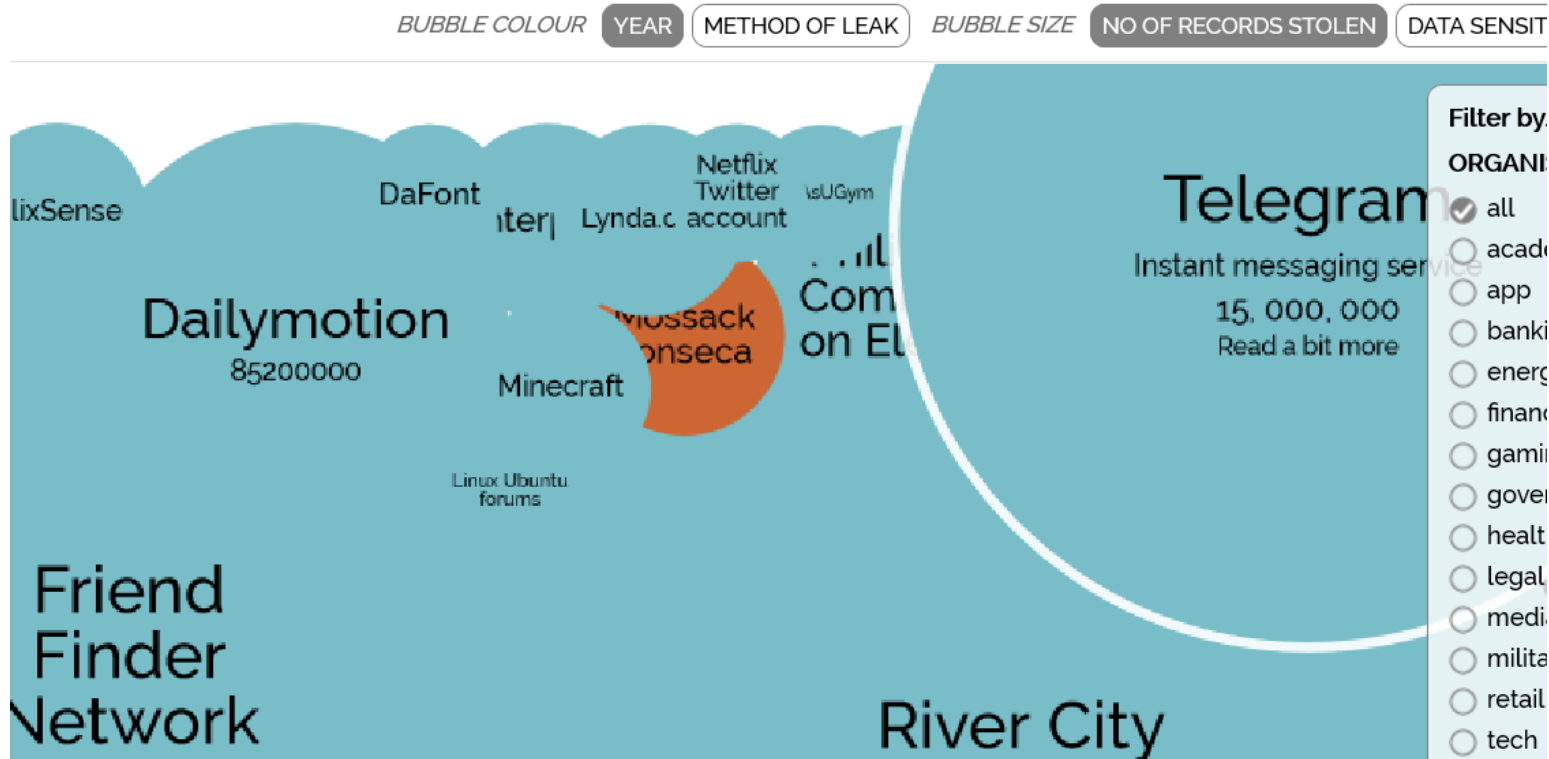
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Reasoning

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More than 30,000 records



World's Biggest Data Breaches

Trend: threats coming from within the system, rather than from the outside world.

Uniface listens to customers

- Large AU customer:
- Security audit
- Security concerns about networked data
- Possible 'man in the middle' attack



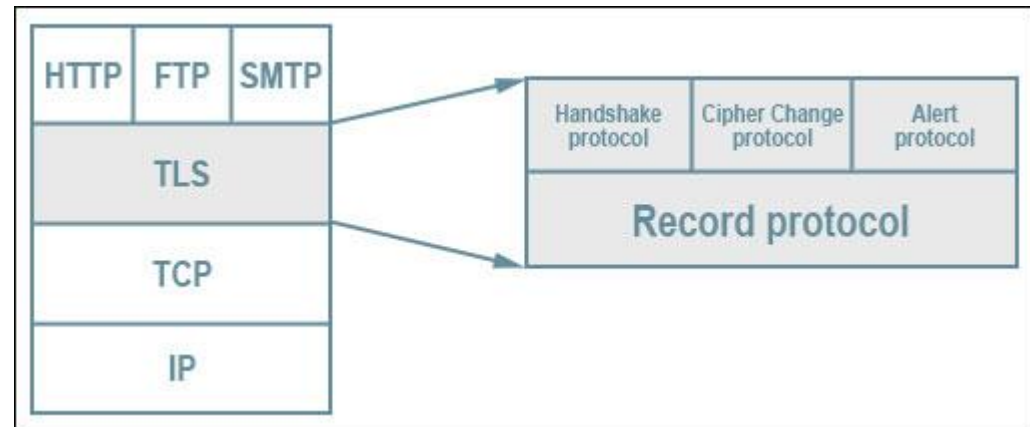
Solution

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Provided solution: TLS driver

- Industry standard solution
- TLS, Transport Layer Security is the basis of HTTPS



- Opted for a new TLS network driver, using OpenSSL (3rd party product, already in Uniface).
- Released as Beta to selected customers

The TLS Lab project

- TLS Network Driver and amended Uniface Middleware
- Testing, also benchmark test
- Concurrent Client URouter Framework, manual testing
- Amended and Restructured Documentation

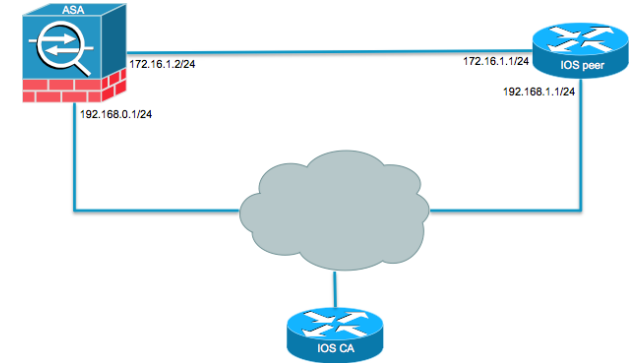
Technical background

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The logo for UNIFACE, featuring the word "UNIFACE" in a bold, white, sans-serif font. The letter "A" is replaced by a red triangle with a white geometric pattern inside. The background is a solid blue color with a decorative pattern of light blue and white triangles at the bottom.

TLS Characteristics

- Verification of Peer.
 - This is achieved through the use of ‘certificates’. A trusted Certificate Authority (CA) issues certificates to organisations. By ‘trusting’ the CA, you implicitly trust the organization.
- Encryption of Data.
 - All data is sent over the network is encrypted either using a ‘pre-determined’ key or one that is negotiated during peer verification.



Possibilities

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The TLS Driver



- New driver mnemonic, TLS
 - Many new driver options to specify verification, certificates, keys, etc. Option defaults require no configuration but are the least secure. By specifying more options, certificates need to be available and security increases.
- Options can be specified on a per path basis.

[PATHS]

```
$remote = TLS:<host>+<port>:TLS_Profile|<user>|<password>
```

[NET_SETTINGS]

```
TLS_Profile = verify_server=yes, %\  
                ca_certificate = trusted.pem
```

The TLS Driver

- Need to be aware of the role of an application, TLS Client or Server.
- Special considerations for Exclusive servers, are both TLS Client and Server.
- Driver uses OpenSSL. Certificates must be in PEM format. No platform specific integration.

Shared Server vs. Exclusive Server

Figure 2. Connections with Shared Server

- 1 Between the client and the Uniface Router.
- 2 Between the Uniface Router and the Uniface Server. This connection is used for all further communication between the Uniface Router and the Uniface Server.

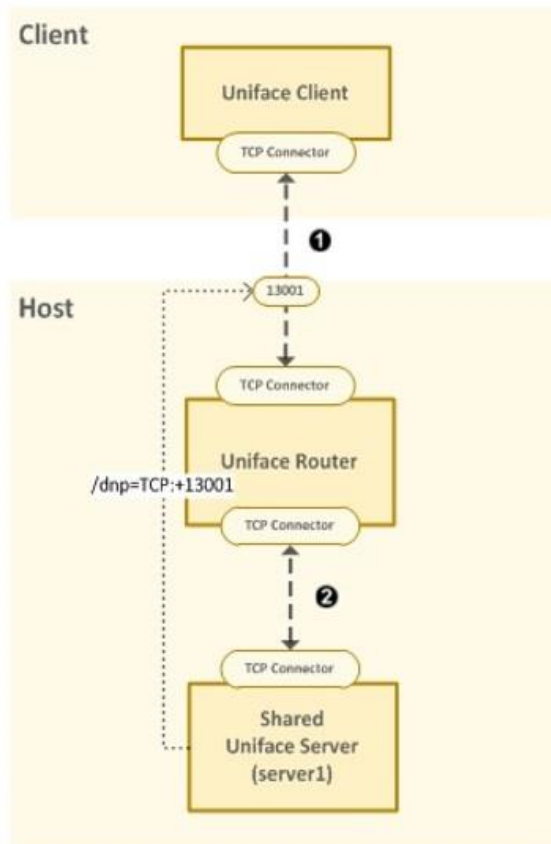
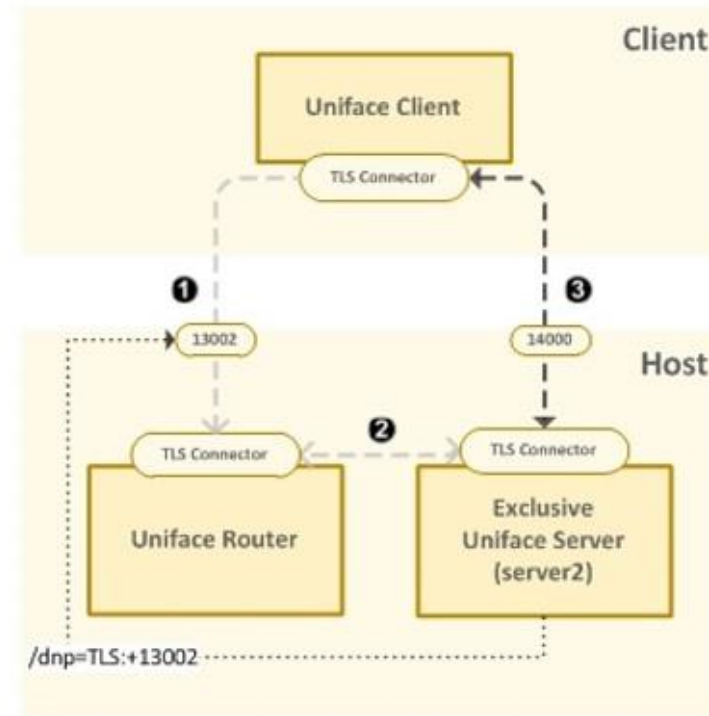


Figure 3. Connections with Exclusive Server

- 1 Temporary connection between the Uniface client to the Uniface Router. It is closed after the Uniface Router informs that client to reconnect using port TLS:+14000.
- 2 Temporary connection between the Uniface Server and Uniface Router when the Uniface Server registers with the Uniface Router.
- 3 Exclusive connection between the Uniface client and the Uniface Server.



Beta release

- Some Uniface aspects not yet implemented:
 - No 4GL debugger
 - No Router monitor
- Some TLS aspects not yet present
 - Now only covers normal C/S traffic, no WRD
 - Lots of configuration aspects
- Customers are building experience with it.

FAQ

- TLS will not become the default driver.
 - TCP remains because of piggybacking.



Documentation

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Documentation

- Detailed information about certificate creation and usage
- Detailed information about the TLS driver
- Information about controlling the security settings between the client and the URouter and the URouter and its servers
- Restructuring the library, 'Distributed Application Support'

Planning

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A decorative graphic at the bottom of the slide consisting of several overlapping triangles in shades of blue and light blue, arranged in a jagged, mountain-like pattern.

Planning

1. Uniface 9.7.04 and Uniface 10.2.02



2. Remaining work on TLS driver (WRD)

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- Contact [Arjen](#) or [Ton](#)!

Thank You!

Q&A

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