



Uniface News

Security & Performance Update

26 November 2018

Jason Huggins

Director, Global Delivery

Agenda

- Network security recap
- Network security updates
- Rebuilding the core of Uniface

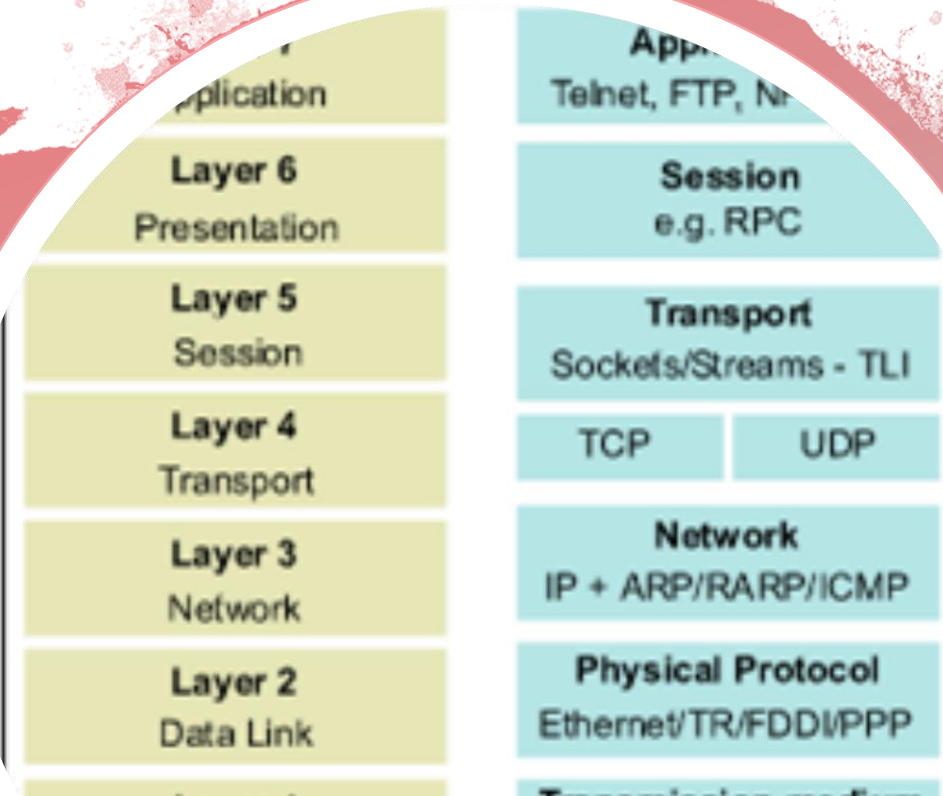
A large, irregular red ink splatter or blotch is centered on a white background. The splatter has a dark red core that fades to a lighter red at the edges, with many small red droplets and speckles scattered around it. The text is overlaid on the dark red part of the splatter.

Network Security

Data Privacy & Encryption

The challenge

- Plain TCP is insecure
- Many threats exist
- Data privacy is essential

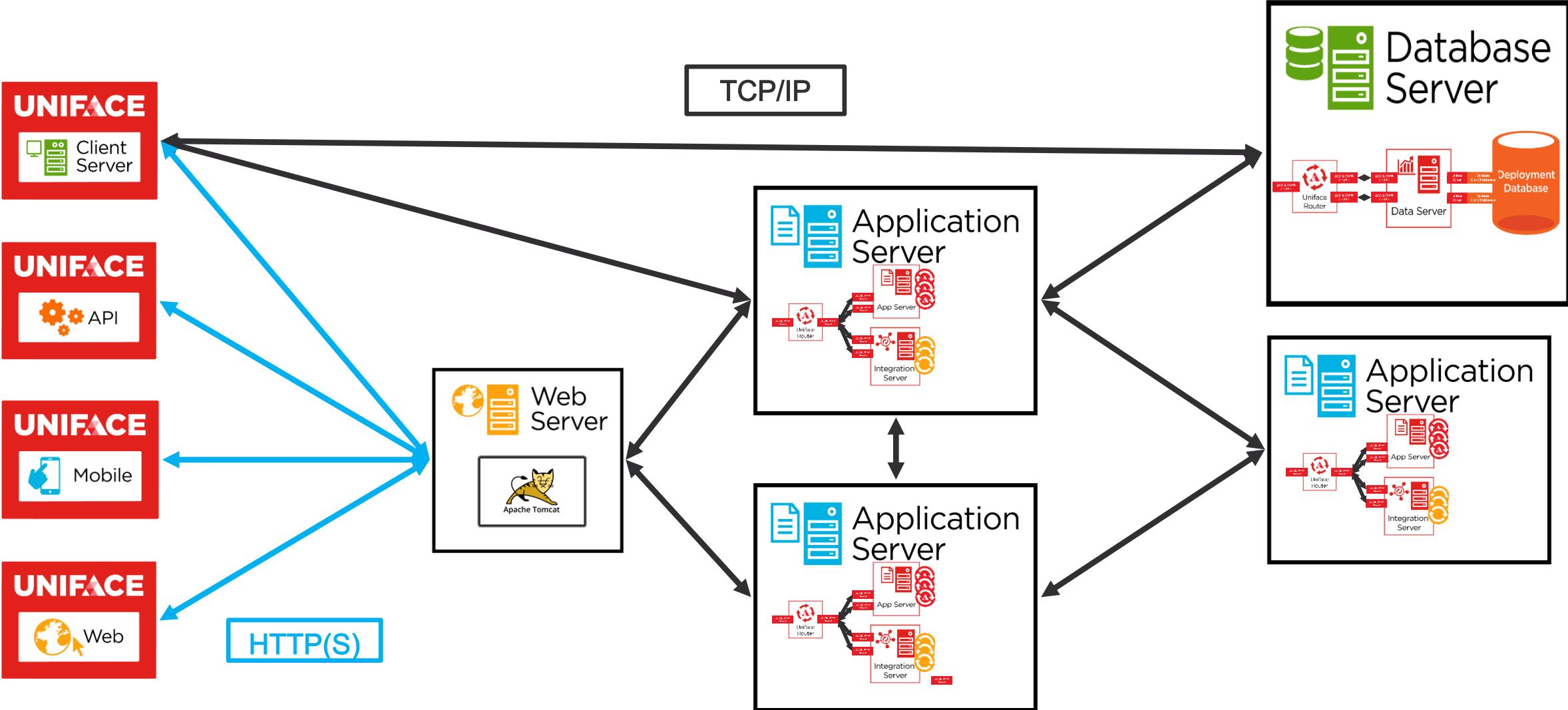




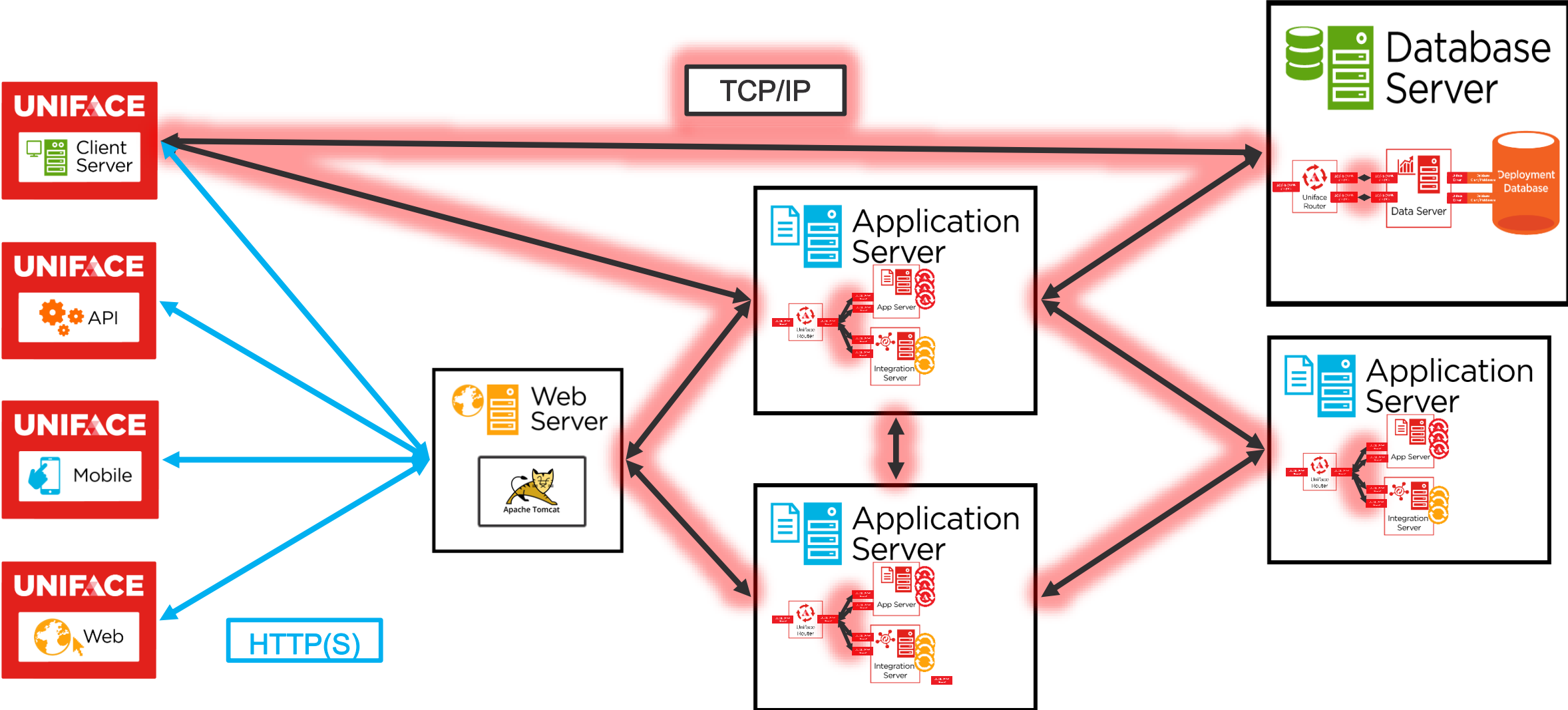
Global Data Breaches

- 10M's to 1000M's row per year
- Average cost \$4M
- US identity theft \$16Bn in 2014

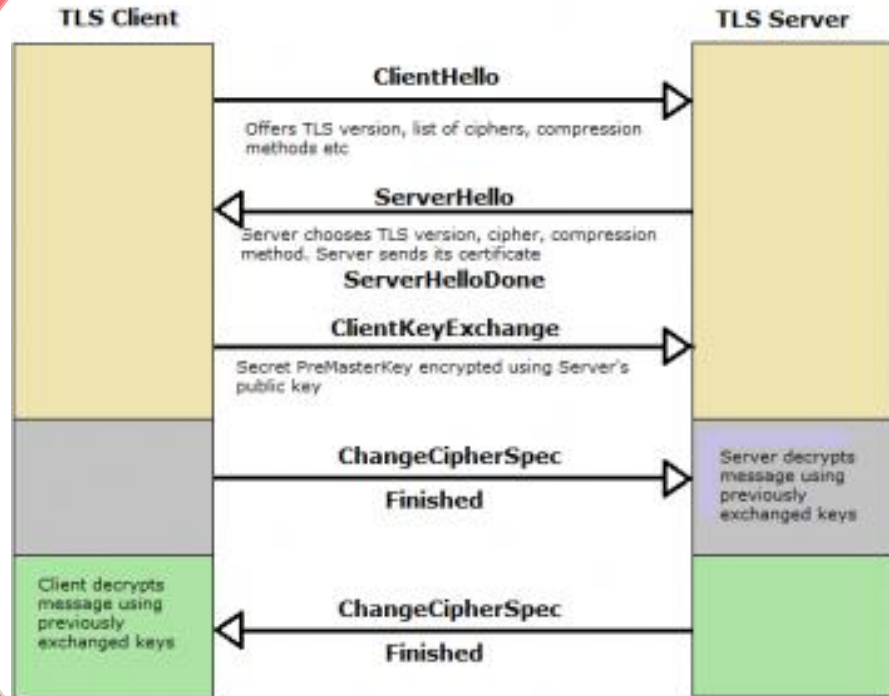
An insecure deployment



An insecure deployment

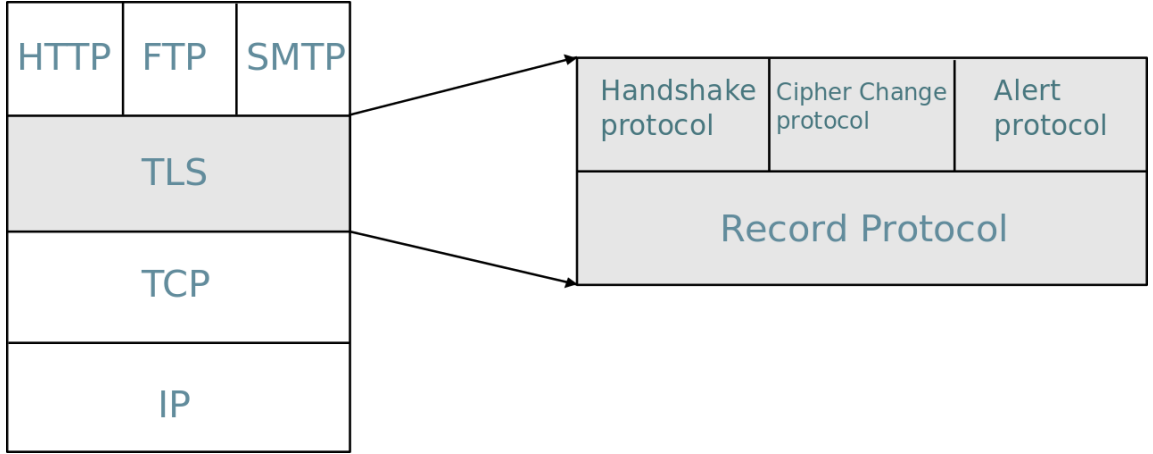
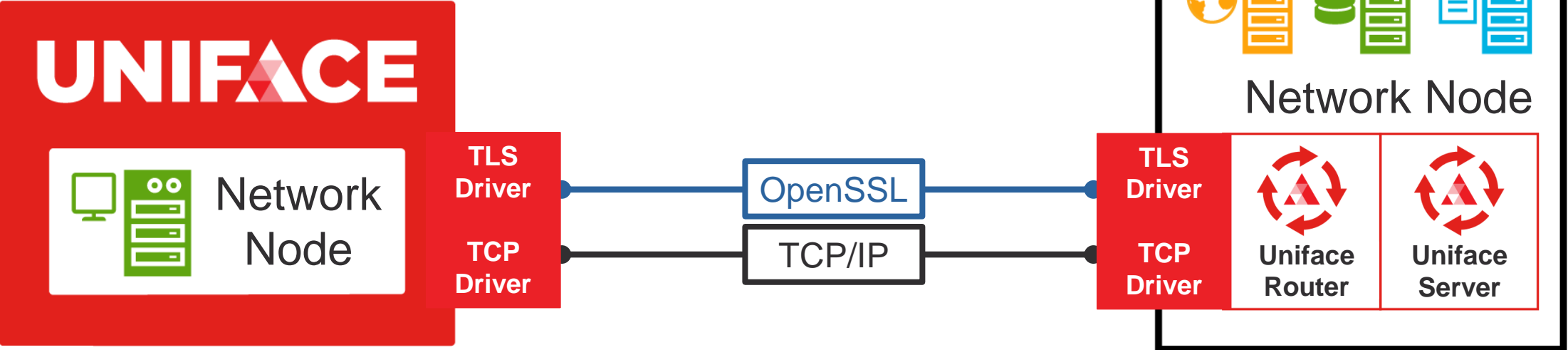


The solution?



- Transport Layer Security
 - Cryptographic protocols secure communications
 - Successor to Secure Sockets Layer (SSL)

Cryptography layer added using OpenSSL





OpenSSL

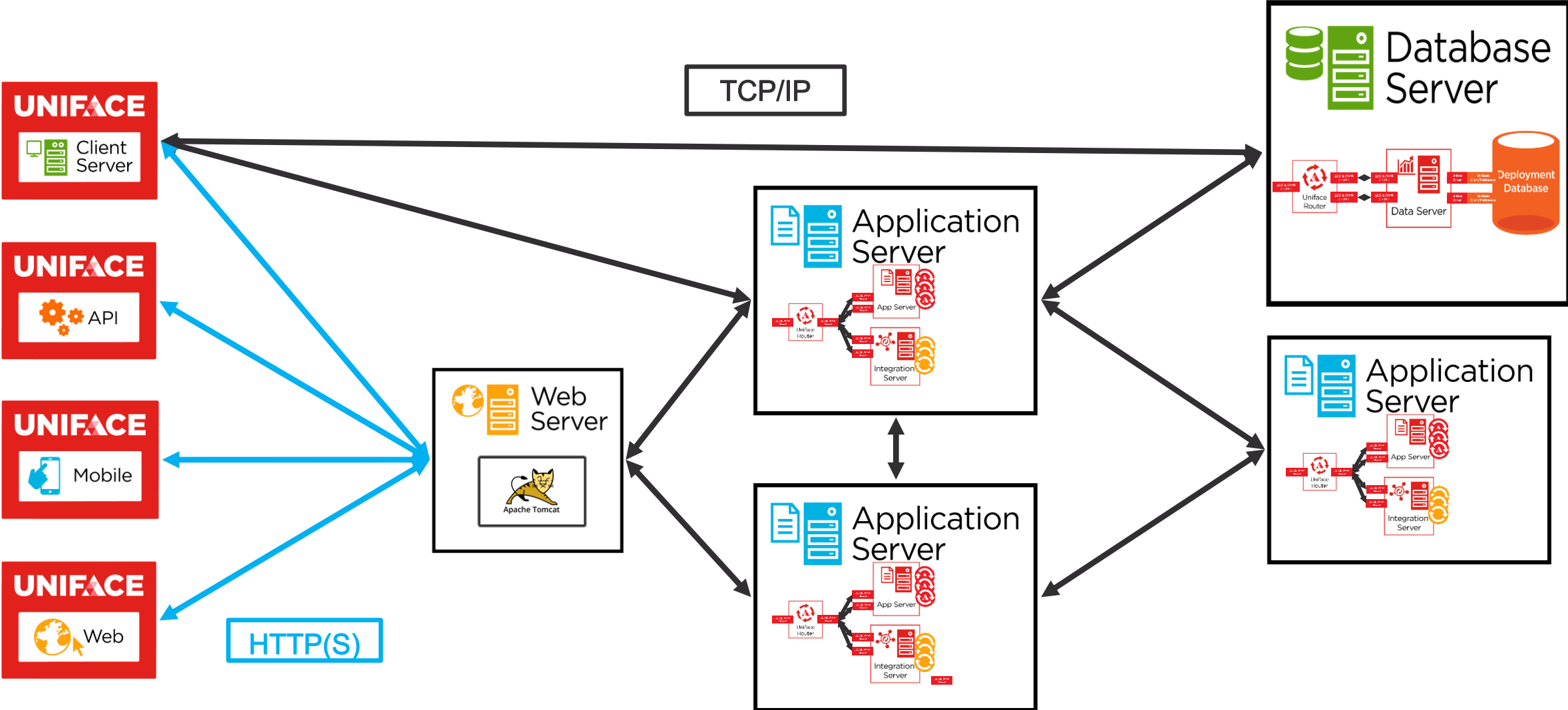
- Cryptography 'Swiss Army Knife'
- Backed by major organisations and government institutions
- Well maintained & supported
- Platform coverage



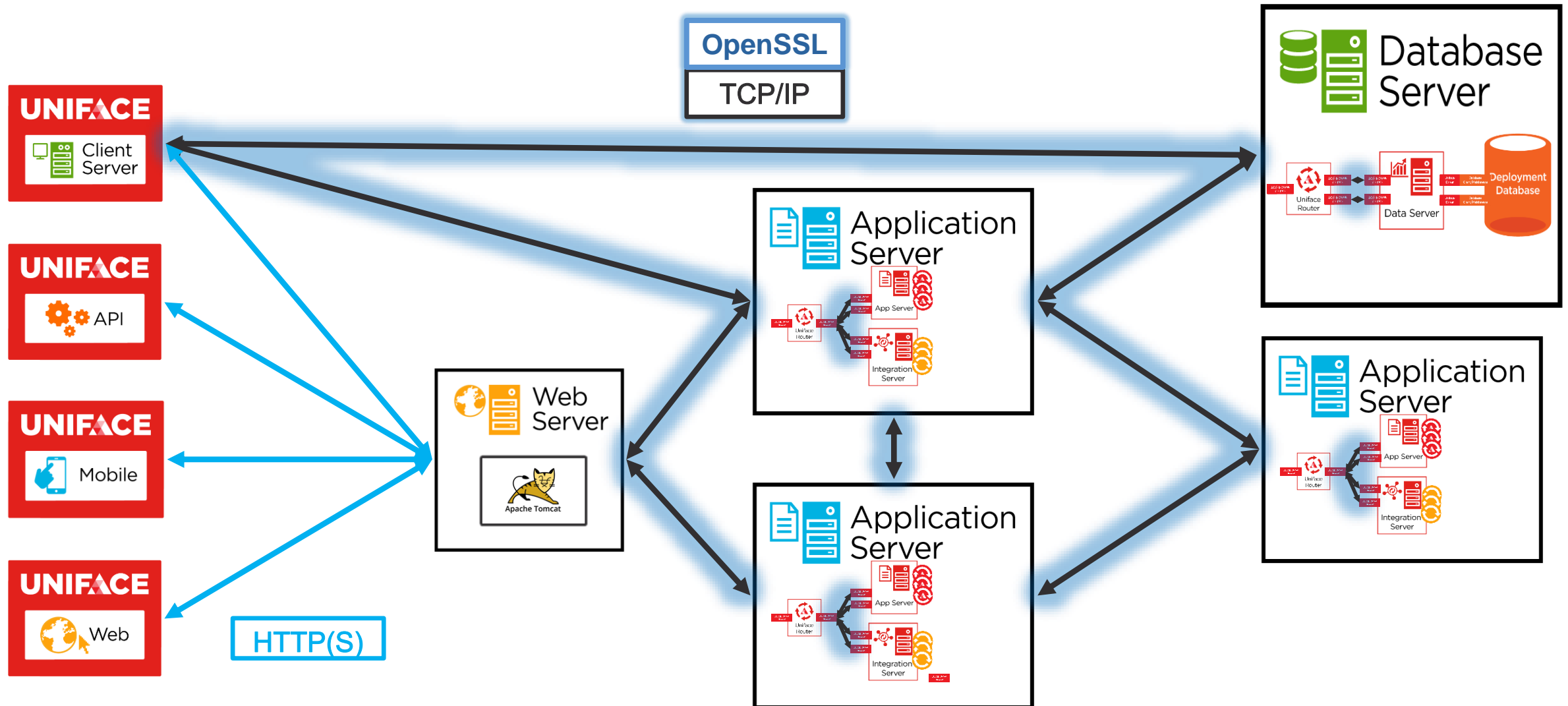
Familiar configuration

- Regular driver approach
 - TLS:
 - USYS\$TLS_PARAMS
- Connection profiles in
 - [NET_SETTINGS]

Insecure deployment



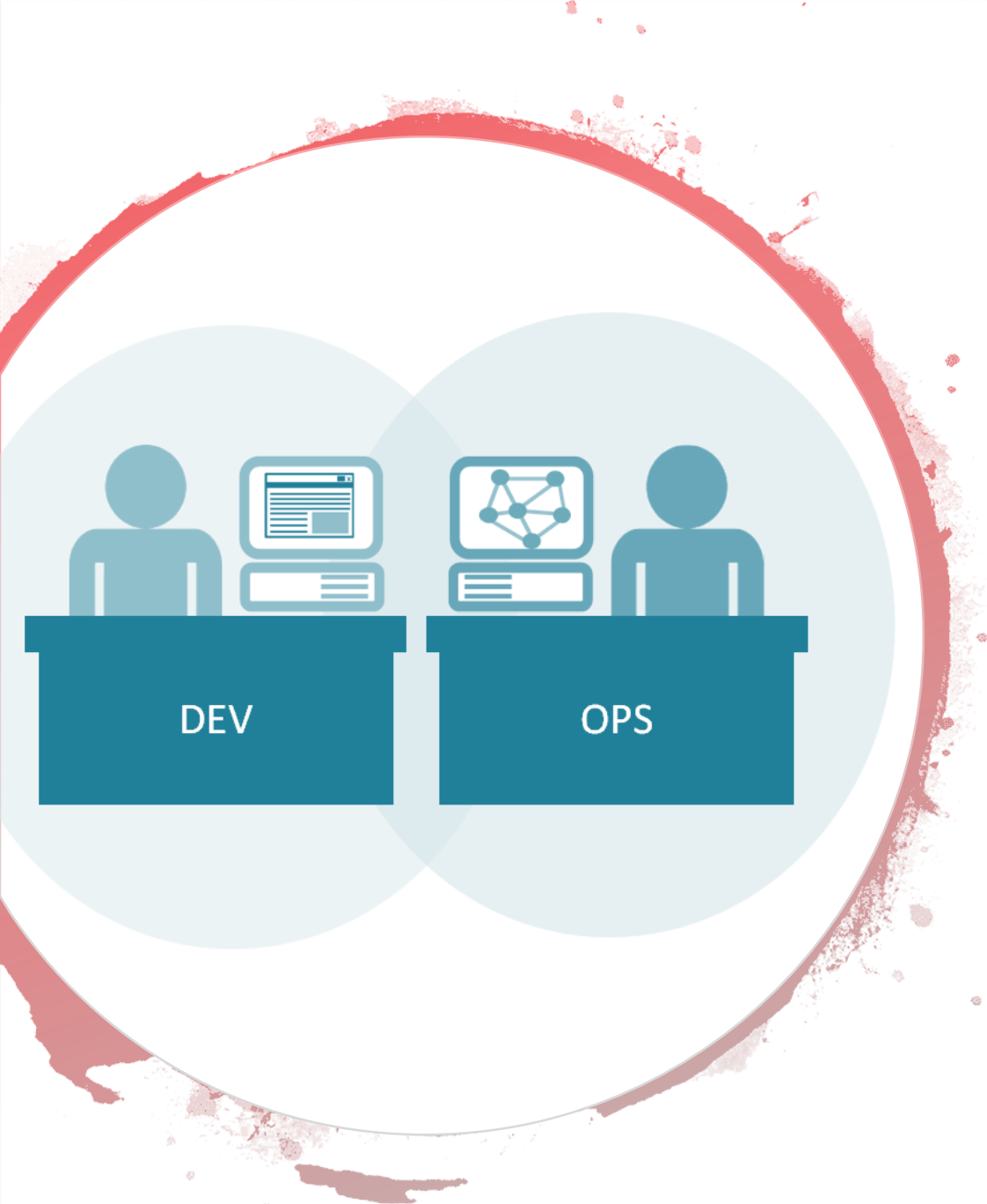
Secure deployment





TLS Coverage

- TLS Network Driver
 - Client Server & WRD
 - PostMessage
 - Debugger
- Roadmap
 - Urouter monitor over TLS
 - Upopmail over TLS
 - LDAP over TLS
 - *Ongoing*



Considerations

- Development
 - More or less no change
 - Transaction size
 - Client vs server processing
- Operations
 - Understand security and encryption
 - Understand encryption policies are required
 - Use the *PathScrambler* (***in encryption mode!***)
- Security is a shared responsibility

A large, irregular red ink splatter or blotch is centered on a white background. The splatter has a textured, watercolor-like appearance with various shades of red and some darker spots. The text is centered within this red area.

Uniface Core

Security & Performance

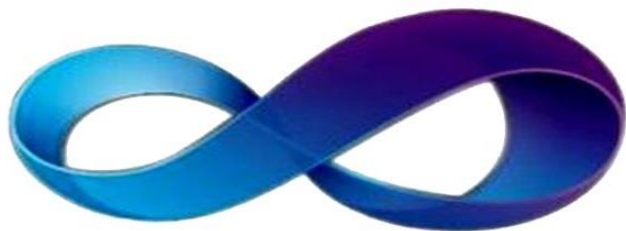


Currency & Refactoring

- Platform support
 - Windows, Linux/Unix, iSeries
 - C compilers & Operating Systems
 - Dependencies
 - ICU updated
 - SOAP stack updated
- Utilized new coding practices
- Fixed breaking changes
- Future proofed as much as possible
- 5½ man years invested



Microsoft Visual C++ 2015
Redistributable



Currency – VC++ 2015

Visual C++ change history 2003 - 2015

08/30/2017 · 102 minutes to read · Contributors

This article describes all the breaking changes from Visual Studio 2015 going back to Visual Studio 2003, and in this article the terms "new behavior" or "now" refer to Visual Studio 2015 and later. The terms "old behavior" and "before" refer to Visual Studio 2013 and earlier releases.

For information about Visual Studio 2017, see [What's new for Visual C++ in Visual Studio 2017](#) and [Conformance Improvements in Visual C++ in Visual Studio 2017](#).

Note

There are no binary breaking changes between Visual Studio 2015 and Visual Studio 2017.

When you upgrade to a new version of Visual Studio, you might encounter compilation and/or runtime errors in code that previously compiled and ran correctly. Changes in the new version that cause such problems are known as *breaking changes*, and typically they're required by modifications in the C++ language standard, function signatures, or the layout of objects in memory.

To avoid run-time errors that are difficult to detect and diagnose, we recommend that you never

In this article

[Visual C++ 2015 Conformance Changes](#)

[Compiler Conformance Improvements in Visual Studio 2015](#)

[Visual Studio 2013 Conformance Changes](#)

[Visual C++ 2012 Breaking Changes](#)

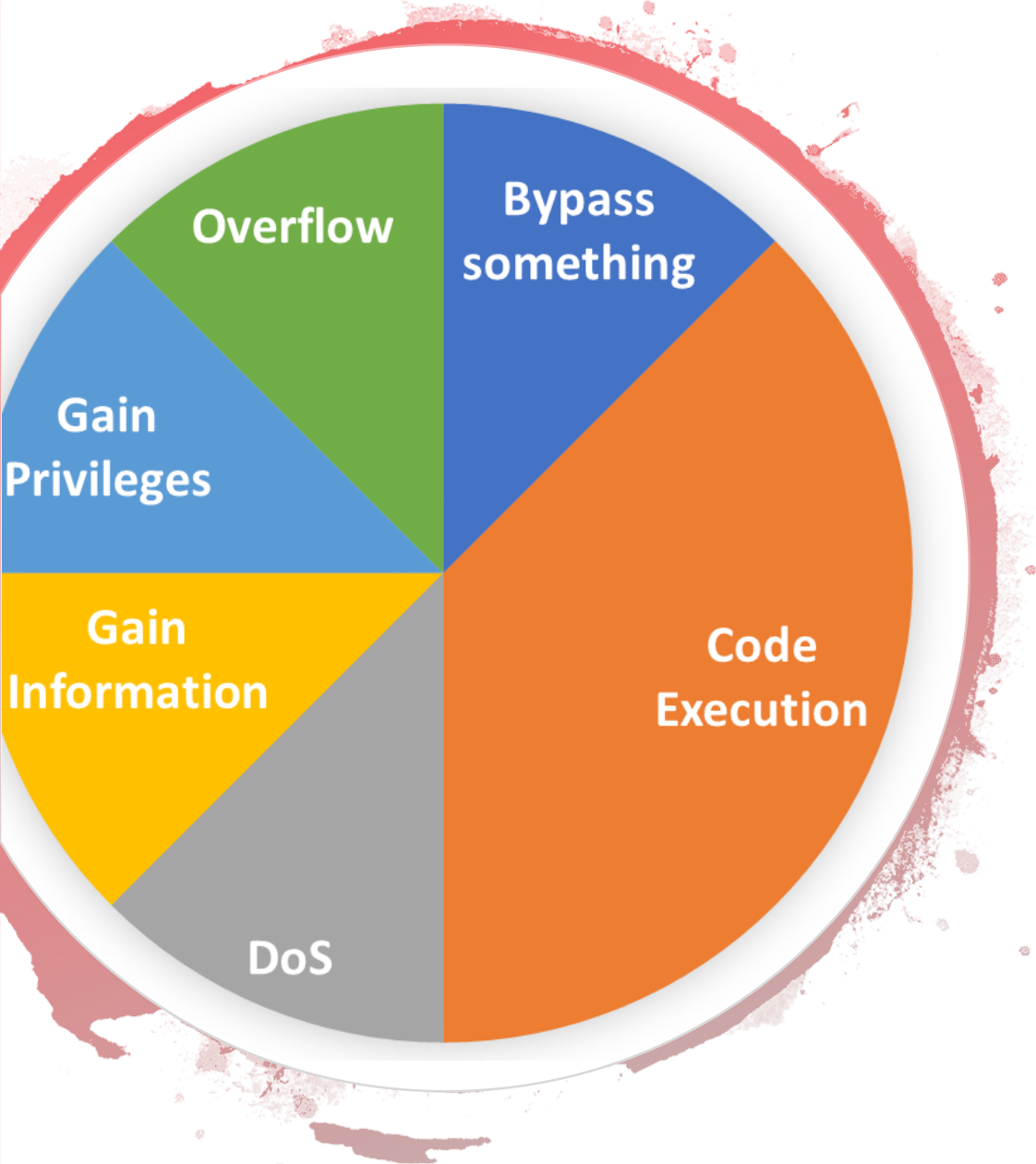
[Visual C++ 2010 Breaking Changes](#)

[Visual C++ 2008 Breaking Changes](#)

[Visual C++ 2005 Breaking Changes](#)

[Visual C++ .NET 2003 Breaking Changes](#)

[See Also](#)



Security – VC++ 2015

- Ongoing fixes are important
- Various exploits fixed to date
- Supported releases only



Performance

- Currency
- Refactoring
- Improved up to ~20%

Note: Every application is different!

< > proc://uprofile/18?db=T&seq=0&sql=4 Search >




Load & View Search Bookmarks

Select log file to analyse












Profile Name:

Save to DB for analysis

Saved logs:

-  103__2018111423253269 ^
-  9705__2018111423181309
-  9704__2018111423150017

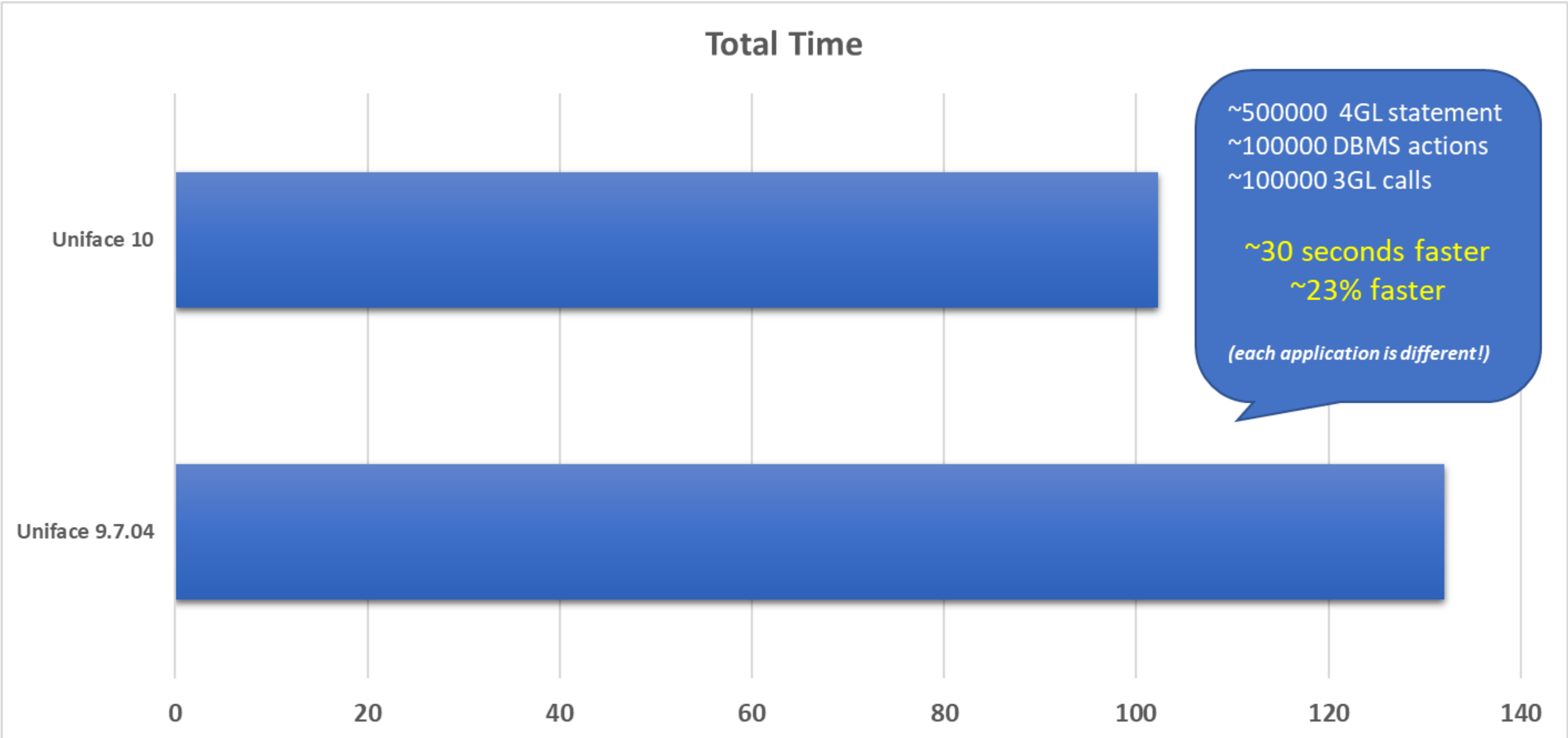
Sort by: Sequence number

-   103__2018111423253269
 -   PROFILER:trigger APSTART [E-I:2.33955s E:2.33955s Ex:1.89134s D:0.0921s Dx:0s N:0s Nx:0s l:0s b:0s]
 -   TAB_QUICK_VIEW.DUMMY.DUM.BROWSE:trigger DETAIL [E-I:9.76752s E:17.71514s Ex:7.95392s D:0.01617s Dx:0s N:0s Nx:0s l:0s b:0s]
 -  TAB_BOOKMARK.PROFILE.BOOKMARK.MOD_TYPE:trigger FORMATTODISPLAY [E-I:0.00001s E:0.00001s Ex:0.00001s D:0s Dx:0s N:0s Nx:0s l:0s b:0s]
 -  TAB_SEARCH.PROFILE.PROFTRACE.TYPE:trigger FORMATTODISPLAY [E-I:0s E:0s Ex:0s D:0s Dx:0s N:0s Nx:0s l:0s b:0s]
 -   TAB_QUICK_VIEW.DUMMY.DUM.LOADOODB:trigger DETAIL [E-I:82.23154s E:82.23154s Ex:0.00018s D:63.08033s Dx:0s N:0s Nx:0s l:0s b:0s]
 -  TAB_SEARCH.PROFILE.PROFTRACE.TYPE:trigger FORMATTODISPLAY [E-I:0.00001s E:0.00001s Ex:0.00001s D:0s Dx:0s N:0s Nx:0s l:0s b:0s]

Sum times and counts grouped by component

component name	avg of elapse x	max of elapse x	sum of elapse x	avg of dbms x	max of dbms x	sum of dbms x
S_PROFILE_DATA	0.00100	17.47553	92.04555	0.00069	.58612	63.17749
TAB_QUICK_VIEW	.88615	7.95392	7.97539	0.00001	0.00001	0.00001
PROFILER	1.89134	1.89134	1.89134	0.00000	0.00000	0.00000
CNT_PROFILE_VIEW	0.01513	.15922	.18153	0.00000	0.00000	0.00000
F_PROFILER	0.00705	.13919	.16222	0.00001	0.00001	0.00001
TAB_BOOKMARK	0.00089	0.00385	0.00890	0.00137	0.00169	0.00274
CNT_DB_PROFILE	0.00060	0.00468	0.00599	0.00000	0.00000	0.00000
CNT_SOURCE_VIEW	0.00031	0.00107	0.00219	0.00000	0.00000	0.00000
TAB_SEARCH	0.00022	0.00145	0.00157	0.00000	0.00000	0.00000
CNT_SQL_VIEW	0.00013	0.00077	0.00120	0.00000	0.00000	0.00000
TAB_FINDSLOW	0.00015	0.00073	0.00077	0.00000	0.00000	0.00000

Test results



THANK YOU

