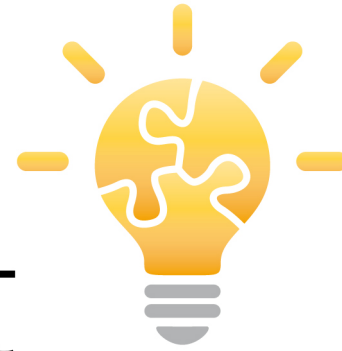


APPLICATION
MODERNIZATION WITH

light
weight
web



Framework for CICS®

Virtual CICS user group meeting

September 13, 2016

Bobby Tjassens Keiser - Y-Innovate IT

Agenda

- ▶ *Introductions of presenter and Y-Innovate IT*
- ▶ LWW in one slide
- ▶ Sneak preview
- ▶ LWW in more detail
- ▶ Benefits of using LWW to your business
- ▶ Examples types of uses
- ▶ Demo
- ▶ Some final thoughts
- ▶ Q & A

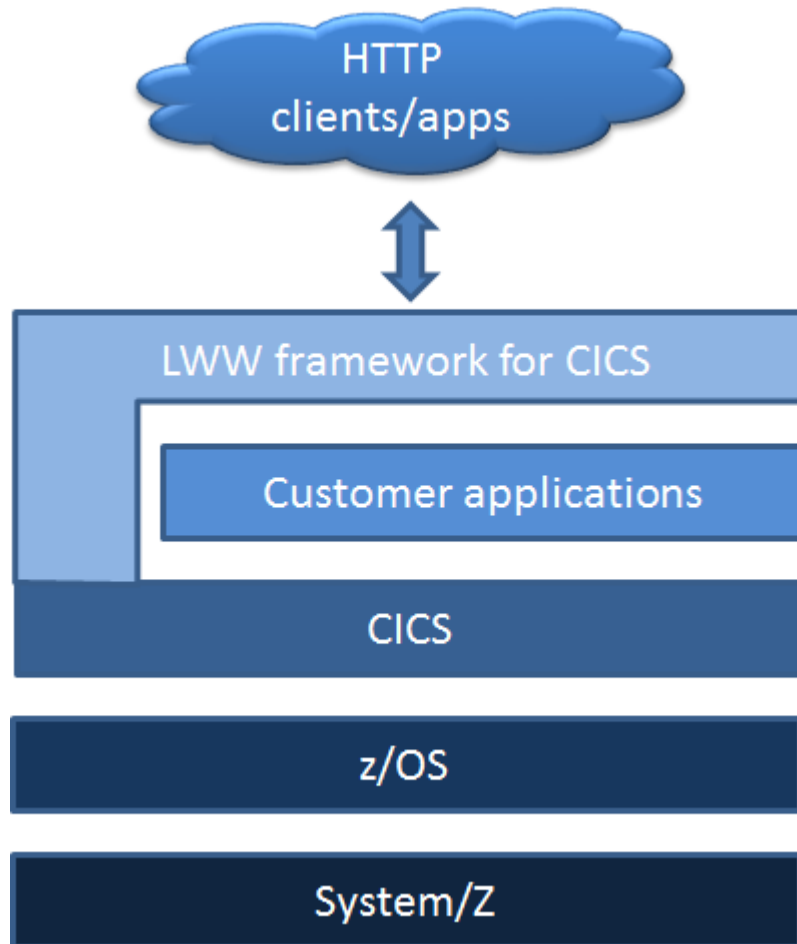
Introductions of presenter and Y-Innovate IT

- ▶ **Presenter:** Bobby Tjassens Keiser, age 38, married with children, Technical Architect at Y-Innovate IT
(for bio look on <http://fundi.com/virtualcics/meetings.htm>)
CICS enthusiast from both a developer's as a system programmer's perspective, loves to code, especially mixing up old (like assembler) and new (web)
- ▶ **Y-Innovate IT:** IBM business partner with the intention of bringing new innovative software to large enterprises
The members of the Y-Innovate team each have a long history on Z in different roles ranging from CICS/IMS specialist to experienced software sales
- ▶ **ICU IT Services:** Sister company, closely related to Y-Innovate IT, providing technical specialist skills for enterprise IT systems for >17 years, focus on infrastructure of both System/Z and Linux on Z

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LWW in one slide



LWW is a framework for CICS that allows you to exploit CICS's capabilities of acting as a web server and provides means to easily integrate with traditional CICS applications (e.g. Cobol/PL1/Assembler).

It allows you to reuse existing infrastructure as well as existing applications.

It is Assembler written and makes use of CICS Web Support, so it runs in regular CICS transactions.

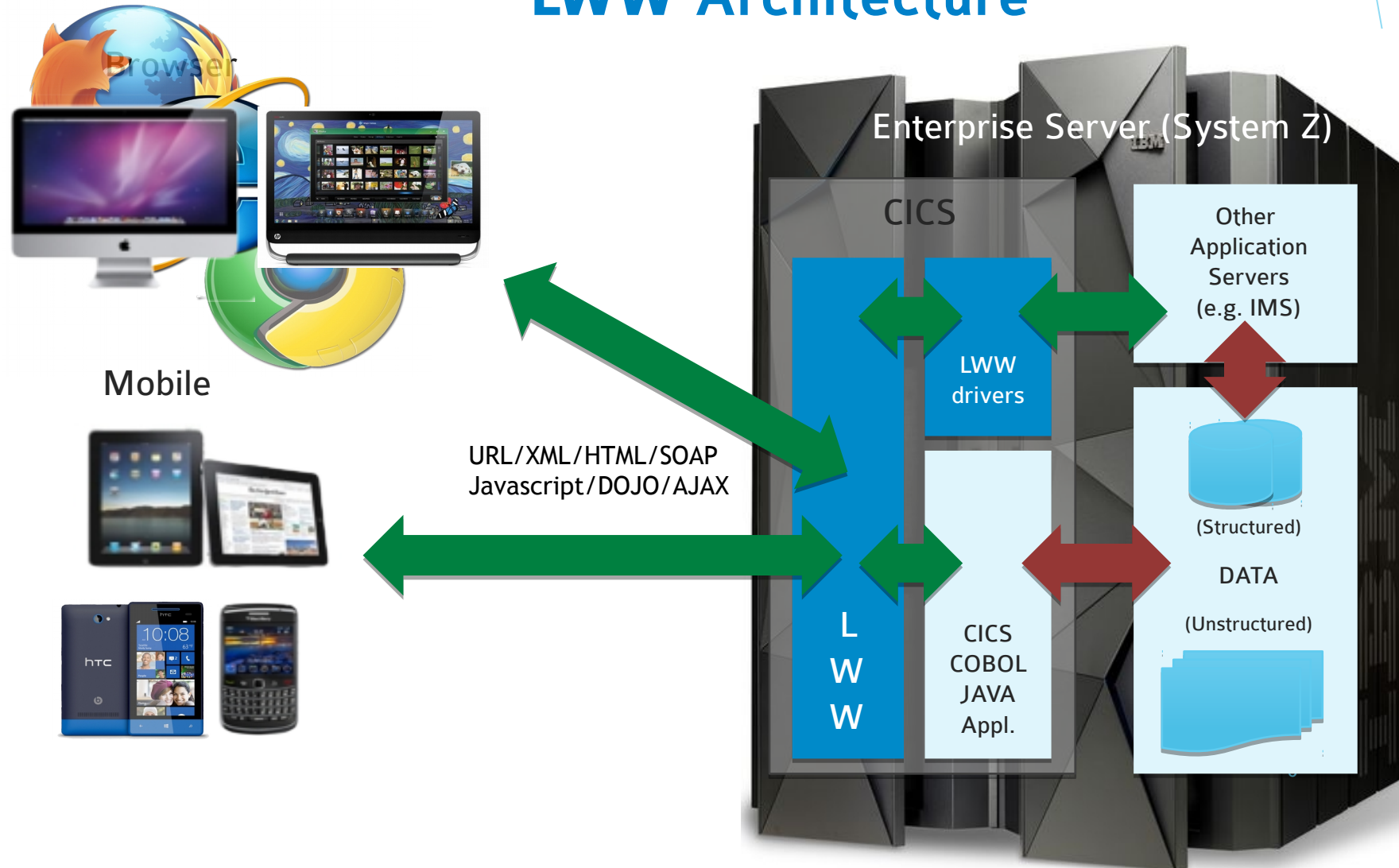
Other than good old regular CICS it requires none of IBM's complicated 'new workload' infrastructure (like Liberty, z/Connect, Worklight, DataPower, etc).

It has nothing to do with screen scraping.

It has everything to do with web-enabling your CICS applications.

Okay, maybe two slides...

LWW Architecture



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Sneak preview

The screenshot shows the Eclipse IDE workspace for 'LWW - index.html'. The main editor displays the HTML source code for 'index.html'. The code includes a DOCTYPE declaration, HTML and head tags, a meta charset of UTF-8, a title 'Virtual CICS user group meeting demo page', and a link to 'styles.css'. The body contains a container with a background color of #997a2e, a 700px wide inner container, a CICS logo on the left, and a title 'Virtual CICS user group meeting September 13, 2016' followed by placeholder text. Below the editor is the 'LWW Scripts' table.

Name	Loadmodule	File ID	Transaction	Modified by	Date modified
cicslogo.jpg		VICI0002	LWBD	YBTK	2016-09-09 14:45:07.45
index.html		VICI0001	LWBD	YBTK	2016-09-09 14:58:37.98
styles.css		VICI0003	LWBD	YBTK	2016-09-09 14:53:51.08

The screenshot shows a web browser displaying the rendered page. The URL is 'mainframe1ww:8090/VirtualCICS/index.html'. The page features a header with the 'Virtual CICS' logo and the text 'CICS & LWW powered demo page!!'. The main content area has a green background and displays the title 'Virtual CICS user group meeting September 13, 2016' followed by placeholder text. At the bottom, there is a dark red section with the text 'Virtual CICS news >>' and 'new product LWW by Y-Innovate surprises CICS users!'.

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LWW in more detail



► Consists of:

- A custom hierarchical file system, can be in a VSAM file or in DB2, stores web content (files in folders in folders etc.) but with LWW specific file properties (like mime type, CICS transaction code, etc.)
- A CICS install transaction that automatically generates the necessary CICS resource definitions (like URIMAPs and DOCUMENT TEMPLATES)
- LWW CICS software that hosts the contents of the LWW file system. It gets control at each HTTP driven request to CICS, constructs an HTTP response based on the requested file in the file system, optionally passes control to user written modules for dynamic content and returns the HTTP response to the requesting client
- An Eclipse plug-in, which is the user interface for managing the contents of the file system (there's also a web interface for emergency use)
- An import/export utility for managing the file system(s) in batch

LWW in more detail



- ▶ What happens when a web request hits CICS+LWW:
 - The standard CICS Web Support initial actions are performed, meaning the best matching URIMAP definition is found to determine what program(s) need to get control.
 - Because the URIMAPs are created by the LWW install transaction, they're setup in such a way that LWW framework gets control first, running under an alias transaction id that was specified on the file or folder in the file system.
 - LWW reads the requested file in its file system, if it's an image or other binary content, LWW just sends it as an HTTP response (accompanied by the proper HTTP headers).
 - If it's a text file, LWW constructs a CICS DOCUMENT and places the static contents in that DOCUMENT.

LWW in more detail



- ▶ What happens when a web request hits CICS+LWW (continued):
 - LWW will then look for 'special tags', which are the real 'magic' LWW performs...
 - The tag `<% INCLUDE(...) %>` will cause LWW to find another file in the repository and insert its contents in the existing DOCUMENT at the position where the tag was found
 - The tag `<% LINK(...) %>`, will cause LWW to place a BOOKMARK at the position where the tag was found and to do an EXEC CICS LINK to the specified program. LWW uses channels & containers to pass relevant information to the user program, like the BOOKMARK name, so the user program can use the CICS DOCUMENT API to insert whatever dynamic content at the proper position in the response text.
 - The tag `<% BOOKMARK(...) %>` allows you to define your own BOOKMARK that a user program linked to with a LINK-tag can also use

LWW in more detail



- ▶ Let's see that in action...

```
1 |<!DOCTYPE html>
2 |<html>
3 |<head>
4 |  <meta charset="UTF-8">
5 |  <title>Sample LINK tag</title>
6 |</head>
7 |<body>
8 |  Some static text.
9 |
10 |  <% LINK(VICICOB1) %>
11 |
12 |  Some more static text.
13 |</body>
14 |</html>
```



Some static text. Text from VICICOB1. Some more static text.

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Benefits of using LWW to your business

- ✓ Modernization of your applications
- ✓ Fast, agile, modern application platform
- ✓ Easily replace 3270 'green' screens
- ✓ Revalue past CICS investments
- ✓ Reduce programming cost by up to 90%
- ✓ De-complicate your infrastructure stack

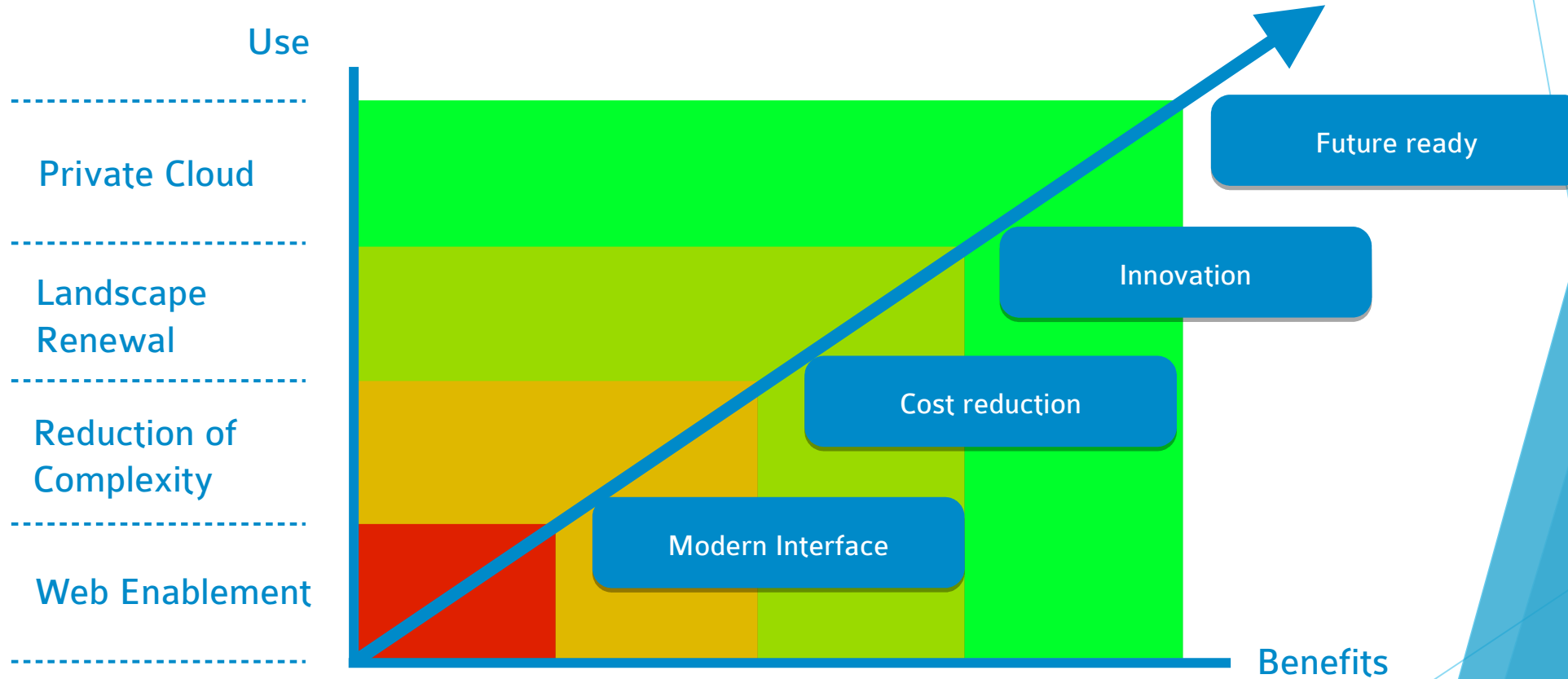
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Example types of uses

- ▶ Replacing existing 3270 interface, thereby prolonging the application's life span
- ▶ Providing a modern web interface to new CICS applications
- ▶ Simplifying interfacing with other (web) applications (HTTP, web services, XML, JSON, REST)
- ▶ Quickly create devOps related web apps like web forms for development to request new CICS definitions, RACF definitions, automate testing of JSON services, etc.

Use of LWW



- ▶ Our competitors focus on the red block only, with a strong emphasis on not touching the legacy app. We believe your apps are not necessarily 'legacy', but can be renewed and improved upon in a carefully controlled manner.

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Worldwide implementation & distribution partners

- ▶ **Y- INNOVATE** - EU & WORLDWIDE
- ▶ **ICU IT SERVICES** - BENELUX
- ▶ **Z/IT CONSULTANCY** - GERMANY & SWITZERLAND
- ▶ **IT CHANGEDIRECTORS** - UK/ SCANDINAVIA/ BALTIC STATES
- ▶ **TO BE ANNOUNCED** - USA



Y-Innovate
Innovations for the Enterprise

Proof of the pudding is in the eating

- ▶ Let us set up a test with any CICS application
- ▶ Let us setup a workshop
- ▶ Ask us to come over and present LWW to IT management



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- ▶ *Q & A*

Thank you!

▶ Contact information:

- Website: www.y-innovate-it.com
- For technical questions: bobby.tjassens.keiser@y-innovate-it.com
- For other questions: john.sissing@y-innovate-it.com

Backup slides...

Questions we often get...

- ▶ What minimum version of CICS do we need to be on?
LWW runs on CICS 3.2 and up
- ▶ Do you have performance metrics?
No, not yet. But the results of tests at customer sites were very promising. We're very eager to do benchmark tests together with you!
- ▶ Can I turn a 3270 app into a web app without any programming effort?
No, because it's NOT a screen scraping technology. To give an existing application a new web user interface, there's going to be some degree of programming involved. How much really depends on how structured the existing app is (if logic and presentation are already strictly separated, the programming effort will be much smaller).

Questions we often get...

- ▶ Won't LWW transactions affect our MSU 4hr rolling average?
It depends... A solution without LWW but with the application data also still on Z would require at least as much data retrieval services, so that processing would need to take place anyway. The small overhead of also hosting the static content is unlikely to affect MSU average, but if it does, we're apparently talking about a heavily used web application which would require a large footprint on another platform which won't come cheap either.
- ▶ Our mainframe staff does not have the necessary skills to develop web apps, won't that be a problem?
Mainframe staff is a growing problem everywhere. New mainframers are going to be needed rather sooner than later. You can either train these new mainframers to do exactly what the older generation has done for > 30 years, or you can train them to be modern, agile, all-round developers that happen to be developing on mainframe because it's the best choice for large enterprises.