Zowe projects in China

—— A New Opportunity for Young Mainframers
IBM GCG Academic Initiative and Ecosystem Development  
tiantcdl@cn.ibm.com  
- Z universities partnership and technical enablement  
- Z Clients metrics program  
- Z campus activities (faculty training/bootcamp/IT Career Day)  
- Joint Projects for talent cultivation and innovation partnership  
- CDUG (China z Systems User Group) for ecosystem development  

- 2004/09—2007/04 State Key Lab of Networking and Switching Beijing University of Post and Telecommunications  
  Research On: Networking and Switching  
  Degree: Master  

- 2000/09—2004/07 Beijing University of Post and Telecommunications  
  Major: Computer Science and Technology  
  Degree: Bachelor
Agenda

I

Background

China Z academic overall status and challenge for young mainframers. Zowe Introduction and open mainframe project.

II

Zowe Project with DLUT

DLUT (Dalian University of Technology) is a key Z university partner, we start the project which focus on integrating the CICS tool (performance monitoring) with Zowe

III

Zowe Project with BUPT

BUPT (Beijing University of Post and Telecommunications) is a new university partners. This project aims to develop one native Zowe application plugin with configurable page and widgets to view data provided by IBM Z
Z Active Universities in China

Business Demands
- Govt/Ind. Influence
- Skill Development
- R&D Collaboration
- Developer Advocacy
- Campus Hiring

Select

Target

Business Demands
- Skill Development
- R&D Collaboration
- Developer Advocacy
- Campus Hiring

Top

[Map of China with universities labeled]
Zowe Introduction

- Pronounced as “Zoe” – [zoh-ee] in English
  Not an acronym – just a simple, fun and easy name
  Using the spelling “Zowe” allowed us to trademark

- An open source project under the Open Mainframe Project (OMP), a collaborative project within the Linux Foundation

- IBM, Rocket Software and CA Technologies are founding members

- An extensible framework for connecting applications and tools to mainframe data and applications.

- Aims to make the mainframe an integrated and agile platform within the changing IT architectural landscape.

- First open source project on z/OS. All code is licensed under the Eclipse Public License version 2.0
What’s in Zowe?

- Browser-based Web Desktop
- API Mediation Layer (Gateway, Discovery Service, Catalog)
- Swagger-defined z/OS REST APIs
- Node.js-based CLI
Zowe Projects with DLUT

Project Overview

- Goals: Contribute a few CICS tools to Zowe as Zowe plugins to help developers to be more efficient, productive and agile in their daily work with z/OS
  - CICS Statistics Visualizer plugin (CICS Health Check Tool)
  - CICS Liberty Debugging Assistant plugin
  - CICS Application CI/CD plugin

CICS Health Check Tool

- CICS Job Log
- JVM profile
- Liberty configuration
- STDERR/STDOUT/JVMTRACE
- Liberty output files like messages.log, trace.log and ffdc from zFS
- MVS dumps (e.g. JAVADUMP, SYSDUMP and CEEDUMP)
  - Leverage Interactive Problem Control System (IPCS) to format dumps
Zowe Projects with DLUT
Zowe Projects with DLUT

- **Team Members**
  - IBM Project Manager
  - IBM Technical Advisor
  - IBM Designers
  - DLUT Professor
  - DLUT Students

Design team's engaging will provide:
- a user-centric perspective from identifying user pain points to deliver user outcomes
- enterprise design thinking framework to co-create with teams and clients
- expertise in visualize ideas and solutions with storytelling

<table>
<thead>
<tr>
<th>#</th>
<th>Items</th>
<th>Due Date</th>
<th>Status</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Environment setup: z/OS, Zowe, Visualizer tool</td>
<td>2019/5/10</td>
<td>Done</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Knowledge ramp up: Zowe, Visualizer tool</td>
<td>2019/5/10</td>
<td>Done</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>CICS SV plugin: Replace Echarts, Grafana as candidate</td>
<td>2019/5/21</td>
<td>Done</td>
<td>Grafana install in USS could not start</td>
</tr>
<tr>
<td>4</td>
<td>CICS SV plugin: Auto statistics data collection from CICS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Option 1: Zowe Rest service to auto dump data from SMF</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>CICS SV plugin: Integrate as Zowe plug-in</td>
<td>2019/6/21</td>
<td>Ongoing</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>CICS SV plugin: testing and bug fixes</td>
<td>2019/6/28</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>CICS Application CI/CD plugin</td>
<td>2019/7/12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>CICS Liberty Debugging Assistant plugin</td>
<td>2019/7/31</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Dalian University of Technology Expects to Deliver New Zowe Tools

Guest blog from Kun LU, Ph.D., Associate Professor, Director of Innovation Practice Center, School of Software Technology – Dalian University of Technology – China

When it comes to the Best DevOps Open Source Project, do you think it has anything to do with the IBM mainframe? Well, it does. Open Mainframe Project’s Zowe, the first open source project based on z/OS, was named as one of the finalists for the "Best DevOps Open Source Project" category by Devops.com. Zowe is an open source software framework that provides solutions that allow development and operations teams to collaborate more effectively.
Zowe Projects with BUPT

- **Objective**
  - Develop one Zowe native plugin and verify the new product architecture for SMU next version.
  - Provide one channel for teachers and students from Chinese universities to join Zowe community, study Zowe framework, touch and familiar IBM Z in the end.

- **Deliverables**
  - Zowe native plugin for SMU
  - Comparative analysis and feedback for SMU project architecture

- **Scope**
  - Study Zowe product and set up Zowe development environment
  - Learn Zowe development skill and familiar with Zowe open source community
  - Design the application architecture of SMU native Zowe plugin
  - Leverage Zowe interface to implement the plugin and able to view automation domain and OMEGAMON data
  - Compare with the existing SMU product architecture and provide suggestion & feedback for SMU product architecture of next version
Zowe Projects with BUPT

• Hill 1: Environment preparation
  • As a developer, I need one Zowe environment to develop and testing my code for Zowe native plugin
    • zD&T environment (with SA for z/OS, OMEGAMON, Zowe prereq.)
    • Zowe environment

• Hill 2: Zowe native plugin development
  • As a developer, I need one boilerplate project to start my development task
  • As a SMU Zowe native plugin development group leader, I need to design a good plugin architecture to meet the current user requirement and make future enhancement easier
  • As a SMU Zowe native plugin user, I’d like to create new page and edit exiting page via configuration mode
  • As a SMU Zowe native plugin user, I’d like to view automation domain data
  • As a SMU Zowe native plugin user, I’d like to view performance monitoring data
  • As a SMU Zowe native plugin user, I’d like to switch to and show web page in my favorite language

• Hill 3: Project summary & review
  • As a SMU Zowe native plugin development group leader, I need to draft final project review report.
Agile Development

Agile is a time boxed, iterative approach to software delivery that builds software incrementally from the start of the project, instead of trying to deliver it all at once near the end.

Sprint

- **M0** - Sprint 0 (04/08 - 04/21) Basic development knowledge preparation
  - Sprint 1 (04/22 –05/05) Development environment & Zowe plugin development skill preparation
  - Sprint 2 (05/06 – 05/19) SMU Zowe plugin architecture design

- **M1** - Sprint 3 (05/20 – 06/02) SMU Zowe plugin architecture code and boilerplate plugin project is ready
  - Sprint 4 (06/03 – 06/16) Create new page and edit exiting page via configuration mode
  - Sprint 5 (06/17 – 06/30) Switch to and show web page in user favorite language

- **M2** - Sprint 6 (07/01 – 07/14) Display automation Domain data display
  - Sprint 7 (07/15 – 07/28) Display performance monitoring data display

- **M3** - Code freeze: 07/26
  - Sprint 8 (07/29 – 08/11) Integration testing phase 1
  - Sprint 9 (08/12 – 08/25) Integration testing phase 2

- **M4** - GA: 08/23
  - Sprint 10 (08/26 – 08/30) Development summary & report
This blog will provide an overview into how BUPT works with the IBM China University Program and how students were introduced to Open Mainframe Project’s Zowe, an open source software framework for the mainframe that strengthens integration with modern enterprise applications.

Dean Kuang, students & IBMers at the IBM China Systems Lab

BUPT established a partnership with IBM China's University Program in 1996 and has participated in several of the program's initiatives. In fact, the team from the School of Software Engineering in BUPT won the second place award in the ICBC-IBM FIN-Tech Contest in 2018.

Through the FIN-Tech contest experience, we had some basic knowledge of IBM Z and learned the value it brings to the market. Unlike distributed platforms such as Linux, it's not easy for students in a university to have hands-on experience on the mainframe. So when Open Mainframe Project's Zowe was introduced to us, we found it very attractive and wanted to know more.
Thank You