zSystems in the Cloud: 
Surprise! You’re a Service Provider

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## An API Economy of Providers and Consumers

<table>
<thead>
<tr>
<th>Segment</th>
<th>Company</th>
<th>Description</th>
<th>Client</th>
<th>Client Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Payment Services</td>
<td>PayPal</td>
<td>Seamless payment mode integrated into POS</td>
<td>Home Depot</td>
<td>Home Depot customers can pay with PayPal at the point of sale, reducing fraud incidents and cutting on larger credit card fees. Rolled out to nearly 2000 stores in 2 weeks.</td>
</tr>
<tr>
<td>Communication Services</td>
<td>twilio</td>
<td>All telco offerings, including line provisioning, phone calls, SMS are provided through APIs</td>
<td>Intuit</td>
<td>Intuit very quickly built (PoC in a weekend to production in 1 month) a service based 2nd factor authentication solution using the SMS messaging API from Twilio.</td>
</tr>
<tr>
<td>Telco</td>
<td>at&amp;t</td>
<td>API suite includes APIs for contacts, SMS, MMS, advertising &amp; payment</td>
<td>Facebook</td>
<td>AT&amp;T subscribers will benefit from directly charging in-app purchases to phone bill.</td>
</tr>
<tr>
<td>Finance</td>
<td>American Express</td>
<td>Drive promotion campaigns for brick &amp; mortar store customers</td>
<td>facebook</td>
<td>Merchants provided insight into success of their campaigns. “Tweet to Transaction” model to increase revenue.</td>
</tr>
</tbody>
</table>

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Redefining the business

Featured Products

- Zend
  - PHP 5.5 - Zend Server Developer Edition
  - Zend Technologies, Inc.
  - $0.03/hr for software
  - Free Trial

- SteelCloud
  - GoldDisk Plus - DISA STIG Windows 200...
  - $49.00/mo + $0.00 to $0.06/hr for software + Charges for EC2 with Windows

- SteelStore (formerly Whitewater)
  - 2030 AMI
  - Riveted
  - $1.12/hr for software

Popular Products

Operating Systems

- Amazon Linux AMI (HVM / 64-bit)
  - Amazon Web Services
  - $0.013 to $0.14/hr incl EC2 charges

- CentOS 6.5 (x86_64)
  - Release Media
  - CentOS.org
  - $0.00/hr for software

- Debian GNU/Linux
  - Debian
  - $0.00/hr for software

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z/OS Providing Higher Level Cloud Services

- Platform as a Service
- Software as a Service
- Infrastructure as a Service

z/OS

Linux on z

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Hybrid Cloud Roles

Service Consumer

Service Provider

TERMS OF SERVICE

Cool Service

Service Creator

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Service Creator Role

Creates function

Break Down “monolithic applications”

Wants to leverage platform capability

Programs in a “Legacy Language”
  • COBOL
  • Assembler
  • Java
Service Consumer Role

Finds Services
- Internally available
- Externally accessible

Relies on Containers
- Docker

Uses new languages
- JavaScript
- Ruby on Rails
Service Provider Roles

Worries about operational characteristics:
• Availability
• Security
• Performance
• Disaster Recovery
• Offer & Dispose of the service

Worries about business issues:
• Service Levels
• Cost of implementation
• Value of the service
• Define the charge/show model

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2. URIMAP associates key and returns standard set of HTML/JS

1. User points browser to endpoint with special key

(Host)/resources/datacaches/BU_SBU/AppName/SpecialKey

Data load on 10 minute int

SMF Exit Data Capture

Cache

3. JS polls Cache for metrics of service instance

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Service: [Redacted]
Status: Up
Response Time: 96ms

Diagnostics (per 10 mins.)

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Why Do I Want the API Manager?

Handle the business of a Request

Keeps track of the number of users

Provides high level security

Aggregates Multiple services

Surprise! : You will probably have more than 1!
There Are Brokers and There are Services

Broker

Provide a dedicated instance of a service

Steps to provide a service

Service

Perform a function

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The Real Work Starts After the Service is Created

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What Do I charge? What do I Provide?

Freemium?

What Value to add?

How to charge?

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What do I deploy for a tier?

Managing Security

Isolation

Performance
How much control do I give tenants?

Do they manage users?

What Info should they see?
Capacity Planning

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When it’s over!

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Summary

• Much of the job remains the same
  – Performance/availability
  – Security
  – DR

• The way the environment will be accessed is changing
  – New workload requirements
  – Focus is on a services model rather than an application model
  – More unpredictable model will ensue

• The new model will require new approach to providing service
  – New tools will provide new insights
  – Operations will have an additional business focus
  – Service Lifecycle will be fundamentally different