Enterprise IT Transformation with IBM Brokerage Services

Gary Zeien, Sr. Cloud Solutioning Architect, Hybrid Cloud Architecture
Agenda

• An introduction to IBM Brokerage Service powered by cloudMatrix
• Persona Based Use Cases (Virtual Demonstration)
  – Enterprise IT Architect
    • Application Assessment
    • Cloud Comparison
    • Solution Design (including Solution Prints and Blueprints)
  – LOB Consumer of Cloud Services
    • Self-Service IT via the Hybrid Cloud Marketplace
  – CIO / CFO (and delegates) Use Cases
    • Managing Bills and Billing
    • Track Usage and Cost (including shadow IT)
  – Broker Operator Use Cases
    • Managing Pricing Rules
    • Managing Budgets
An Introduction to IBM Brokerage Services
powered by cloudMatrix
The reality of Hybrid Cloud has Introduced Key Challenges that can be Addressed with Brokerage

- **Consuming** the most appropriate services for a given application and workload
- **Lack of Visibility & Control** across growing numbers of service providers
- **Shadow IT** with LOBs leveraging the Cloud and bypassing Central IT
- **Integration** of a multitude dimensions (e.g. multiple providers, service management)
- **Supporting** and Managing multi sourced IT Infrastructure
Brokerage balances the needs of Central IT with Lines of Business

Central IT needs:
- Visibility
- Compliance
- Governance

LOB needs:
- Agility
- Choice
- Speed

- **Aggregation** of Cloud services into a catalog to centralize the comparison and purchase of services from multiple providers
- **Integration** of multiple Cloud services – both technical (performance, monitoring, optimization) and administration (cost, metering, reporting)
- **Customization** of Cloud services, either through professional services or custom development
Becoming a cloud broker requires a more business centric approach with an ITaaS operational model.

The shifting focus to Business Operations requires new skills and capabilities.
Cloud Management Platforms and Brokerage Services

Cloud Management Platforms:
- Self-Service
- Automation
- Metering
- Capex Utilization
- Asset Mgmt.
- Hybrid Cloud

Cloud Brokerage Platforms:
- Comparison/Choice
- Aggregation/orchestration
- Customization
- Integration
- Sourcing Mgmt.
- Hybrid IT

Used primarily to deliver an internal cloud service

Used primarily to add value to and coordinate multiple external cloud services
IBM’s Brokerage Services powered by Gravitant cloudMatrix

Increased speed, better control, lower costs

Integration with 3rd party Orchestration engines e.g. VMware, HP CSA, IBM

Integration with DevOps & ITOps Tools e.g. Chef, ServiceNow

Cloud Services Catalog: IaaS, PaaS, SaaS

Service store (cloud marketplace consumption portal)

Screen Compare Design Order Govern Manage

IT Architect IT Admin IT Executive Developer

ITaaS Catalog – Security – Policies – Analytics – APIs

Provider Management Marketplace Management Billing Management Service Delivery Fulfillment

Service delivery and supply chain management

IT Broker Operations Group

CIO and CFO Dashboards
Brokerage has positive impacts on the entire solution lifecycle

The complete lifecycle to move apps to the cloud is months
- Screen: >3 months
- Design: >3 months
- Order: 2 months
- Deploy: 1 month
- Provision: 1.5 months
- Change: 1 month

The impact of traditional CMPs is limited
- >3 months
- >3 months
- 2 months
- Days to Weeks
- Days to Weeks
- 1 month

IBM Brokerage Services accelerates the entire lifecycle
- 2 weeks
- 2 weeks
- Days to Weeks
- Days to Weeks
- Days to Weeks

Months saved = more Revenue earned
An ideal broker compresses the entire lifecycle and automates the management of the cloud supply chain
IBM Brokerage Services Delivers an Integrated ITaaS Experience

Brokerage Services complement and enhance IBM’s existing business

Brokerage services provide visibility to the end-to-end IT-as-a-Service supply chain and buying behavior of clients, providing data driven insights to help us enhance our offerings and cross-sell and upsell additional services.
Brokerage in the context of the IBM Enterprise ITaaS Framework

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Gravitant
IBM Delivery of Brokerage Services for our Clients

- Users of the Platform consuming and managing Hybrid Cloud resources
- Organized around Plan, Buy, Manage
- Tasks performed by the Client

- Operators for the Broker Platform
- Manage services, customers, fulfillment
- Tasks performed by the either the Client or IBM as managed services

- SaaS Delivery of the cloudMatrix SW
- Manages deployment, update, backup and operations for the platform
- Tasks always Performed by IBM
IBM Cloud Brokerage Multi-Tenancy Support

Cloud Ecosystem
- Public IaaS/PaaS/SaaS catalog managed here
- Support multi-level content for providers/services
  - Compare, Consumption, Billing, Discovery, Provisioning

SaaS Brokerage Platform (IBM)

Brokerage Operations (IBM | Enterprise IT)
- Operate as marketplace provider with global catalog & ecosystem management and Master Tenant on-boarding
- Provide support and refers to service providers for direct service support

Master Tenant / Affiliate (IBM | Enterprise IT | BU)
- Manages their customer users, Monitors orders and dashboards
- Pricing Rules, and Catalog Visibility Rules to exclude services and have their own service providers
- External APIs and Whitelabeling Support

Linked Tenant / User Group (IBM | Enterprise IT | BU)
- Can be any group of users linked to master tenant
- Catalog, provider accounts inherited by Master Tenant
- Isolates screening scenarios, private app templates, orders, bills
The platform provides a clean separation of concerns between IT Service Brokerage and Fulfillment.

The Service Fulfillment Bridge provides a simple and open REST based interface that can support multiple forms of integration.

It extends cloudMatrix’s capabilities to a broader ecosystem of cloud services and providers.

Agents can be written independently, in any language, deployed anywhere.
Persona Based Use Cases and Virtual Demonstration
IBM Brokerage Services for **Just Kidding Shoes**

- **Broker User Interface**
  - IBM Brokerage Services powered by cloudMatrix

**Plan**
- Assess Applications
- Compares Clouds
- Builds Hybrid Solutions

**Buy**
- Browses Catalog
- Orders Services
- Consume Services

**Manage**
- Tracks Usage and Cost
- Set and Manages Budgets
- Views Shadow IT Usage

**Service Fulfillment Bridge**

- Marketplace Management
- Provider Management
- Fulfillment Management

**Peter** (IT Architect)
- Assess Applications
- Compares Clouds
- Builds Hybrid Solutions

**Maureen** (LOB Consumer)
- Browses Catalog
- Orders Services
- Consume Services

**Jack** (CIO/CFO)
- Tracks Usage and Cost
- Set and Manages Budgets
- Views Shadow IT Usage

**Chloe** (Broker Operator)
How we have configured the Broker for *Just Kidding Shoes*

Broker (cloudMatrix)

- Demo_A
  - JKS IT
  - JKS LOB
  - Other Affiliates...
  - Others...

Broker

Affiliates (Tenants)

Customers (User Groups)

Chloe (Broker Operator)

Jack (CIO/CFO)

Peter (IT Architect)

Maureen (LOB Consumer)
• We need to ensure the solution is monitored and backup is critical in production.
• Can I track my spending for this solution and ensure that I am within budget?
• I need to know be able to track changes to the provisioned solutions vs. new orders.
Peter Plans for **JKS Enterprise Web App**

1. Assess Application
   - Target Deployment: Public IaaS
   - Cloud Benefit Score: 73.83
   - Cloud Readiness: 76.85

2. Compare Cloud Providers
   - Coverage and Capabilities
   - QoS via 3rd party Benchmarks
   - Client specific costs

3. Designs Solution
   - Details for each application tier
   - Details for Dev, Test, Prod, DR
   - Includes IBM Managed Services

*IBM Brokerage Services powered by cloudMatrix*
Peter Publishes Solution Prints for **JKS Enterprise Web App**

1. Assess Application
   - Details for each application tier
   - Details for Dev, Test, Prod, DR
   - Includes IBM Managed Services

2. Publishes Solution Prints to Marketplace
   - Enables Simple Self-Service Consumption
   - Provides Compliant Services for the Consumer
   - Masks Solution Details from the Consumer

**IBM Brokerage Services powered by cloudMatrix**
Solution Design Key Concepts

• **Applications**
  – Top level concept that is used to model an application workload
  – Allows multiple Virtual Data Centers (VDCs) to be associated together

• **Virtual Data Centers (VDC)**
  – Provides a logical container for resources of multiple types (e.g. Infrastructure Resources, Managed Services)
  – Provides the basis for solution designs (what will be provisioned) and managed (what has been provisioned)
  – Allows for resources to be associated with layers (e.g. tiers) and environments (e.g. dev, prod, test)

• **Solution Prints**
  – Saved snapshots of a VDC that can be re-used, associated with different providers, and ordered later
  – Can be published to the catalog, priced and enable simple pre-packaged ordering from the marketplace

• **Blueprints**
  – Enable flexibility to support multiple and different solution pattern approaches (Heat, Docker, Tosca, etc…)
  – Published to the catalog, priced and enable simple pre-package ordering from the marketplace
  – Are fulfilled with an Agent via the Service Fulfillment Bridge Architecture
Maureen Orders a Development Instance of the **JKS Enterprise Web App**

1. Orders Solution for Development
   - Browses the Marketplace
   - Searches for Services
   - Orders Pre-Package Solutions

2. Configures the Service
   - Shopping Cart Metaphor
   - Preview of one time charges
   - Preview of re-occurring charges

3. Approves Order

4. Manages Fulfillment

IBM Brokerage Services powered by cloudMatrix

Maureen (LOB Consumer)

Chloe (Broker Operator)

Peter (IT Architect)
cloudMatrix Catalog and Marketplace.....

Marketplace (Storefront)

Catalog

- public services
- private services
- Service Solution Prints Blueprints

Pricing Rules

- Seeded and Maintained by IBM through content packs
- Created and Maintained (including commercial model) by Broker Operator

Compare

Solution Design
Providing a consistent consumer digital self-service buying experience.....

Self-Service Consumption Experience

- Browse Services
- Select Services
- Order Services

Order Approvals

- Approval
- Order Approvals

Service Fulfillment

- Service Fulfillment
- Broker Operator
- Provider
- Provider
- Provider

Evolution over time from swivel chair/manual, ticket based to Automated API Driven Fulfillment over time
Important Details and Relationships between Orders, Reports, and Bills

Solution Design
Change
Marketplace
Discovery & Synch

Orders
New → Approved → Fulfilled

Reports
Trends
Costs

Bills
Estimates
Actuals

Providers

*performed daily through Billing Automation
Jack Tracks Cost using Track Spend and Reporting

1. Chargeback Summary
   - Cost by Provider
   - Trend analysis
   - Drill down

2. Cost Analysis
   - Cost by Resource Type
   - Trend Analysis
   - Cost by Architecture Layer
   - Cost by Environment
   - Cost by Resource Type
   - Cost vs. Allocated Capacity

3. Capacity Cost Trends

IBM Brokerage Services powered by cloudMatrix

VM
Storage
Network
Monitoring
Backup
Patch

VMware
Amazon Web Services
Windows
SoftLayer
Provider and Consumer Relationships for **JKS** and what this means to Billing

- **Chloe** (Broker Operator)
- **Jack** (CIO/CFO)
- **Peter** (IT Architect)
- **Maureen** (LOB Consumer)

**Solution Print**

- **VM**
- **Monitoring**
- **Backup**

**JKS IT**

- **Consume**

**JKS LOB**

- **Consume**

**Consolidated Bill**

**Service and Line Item Details from AWS and IBM**

**Broker (cloudMatrix)**

**Demo_A**

**Consolidated Bill (for JKS IT)**

**Consolidated Bill (for JKS LOB)**
Jack is able to View and Manage Bills Across Providers and Customers

1. View Estimated Bills
   • View of all Customers
   • View by Account
   • View by Services

2. Billing Automation
   • Import Bills from Providers
   • Apply Marketplace Pricing
   • Update Budgets and Dashboards

3. Export Bills
   • Export from cloudMatrix
   • Import into external Financial System

IBM Brokerage Services powered by cloudMatrix
Peter and Maureen View Bills Across Providers and Customers

• Estimates and Actuals
• View by Account
• View by Services

1. View JKS IT Bills

2. View JKS LOB Bills

IBM Brokerage Services powered by cloudMatrix

Service and Line Item Details from AWS and IBM

Solution Print
Jack Gains Visibility of Shadow IT using Discovery and Synch

1. Discovery and Synch
   - Attach to an existing account
   - Discovery existing resources

2. Organize VDC
   - Define Layers
   - Define Environments
   - Drag and Drop Resources

3. Govern Usage
   - View Reports
   - Manage Bills
   - Define Compliant Patterns

IBM Brokerage Services powered by cloudMatrix

- VM
- Storage
- Network
- Monitoring
- Backup
- Patch
Chloe Provides Broker Operations

IBM Brokerage Services powered by cloudMatrix

Chloe (Broker Operator)
1. Manage Pricing Rules
   - Markups and Discounts to List Prices
   - Visible or Hidden from Customer
   - Re-Pricing to Existing Orders

2. Create Budgets
   - Set Budget for Customer
   - Defined Thresholds

IBM Brokerage Services powered by cloudMatrix
Thank You
Backup
What Clouds are supported by cloudMatrix?

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<th>Type</th>
<th>Summary</th>
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<td>Order, Discovery Synch, Provisioning, Billing Automation</td>
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<tr>
<td>VMWare vCD</td>
<td>Private Cloud</td>
<td>Order, Discovery Synch, Provisioning, Estimated Charges</td>
</tr>
<tr>
<td>SoftLayer</td>
<td>Public Cloud</td>
<td>Order, Estimated Charges (Discovery Synch, Provisioning, Billing Automation on the roadmap)</td>
</tr>
<tr>
<td>OpenStack</td>
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<td>(Order, Discovery Synch, Provisioning, Estimated Charges on the roadmap)</td>
</tr>
<tr>
<td>vCloudAir</td>
<td>Public Cloud</td>
<td>Order, Estimated Charges</td>
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</table>

**Order:** includes catalog definitions and order management capabilities associated with an order being placed. This is the basic level of support that must be provided for placing orders. This level of support allows a provider’s services to be visibility in the catalog and marketplace, to be included in solution prints and cost estimations and the Cloud Comparison tool.

**Discovery and Synch:** allows for pre-existing and new Cloud resources that are provisioned and allocated directly with the provider (un-encapsulated from the Broker’s point of view) to be discovered and managed by cloudMatrix. This is also often referred to as “Brownfield” and may also be used to introduce governance for Shadow IT.

**Provisions:** provides the automated fulfillment of the resources within an order through a fulfillment engine which is typically integration with the Cloud Service Providers APIs. This can also include be implemented as an integration with a Cloud Management Platform (CMP) such as an IBM Cloud Orchestrator.

**Estimated Charges:** includes the ability for cloudMatrix to generate bills based on all fulfilled orders, allowing billing analyst to reconcile with actuals

**Billing Automation:** includes the ability for cloudMatrix to automate the download and automated reconciliation of the Cloud Service Providers Bills, with forecasts, budgets and estimates that are managed by the Broker.