

The OMS Solutions Bakery

How to build a custom OMS solution in 45 minutes

Marcel Zehner | itnetX

Microsoft RD & MVP

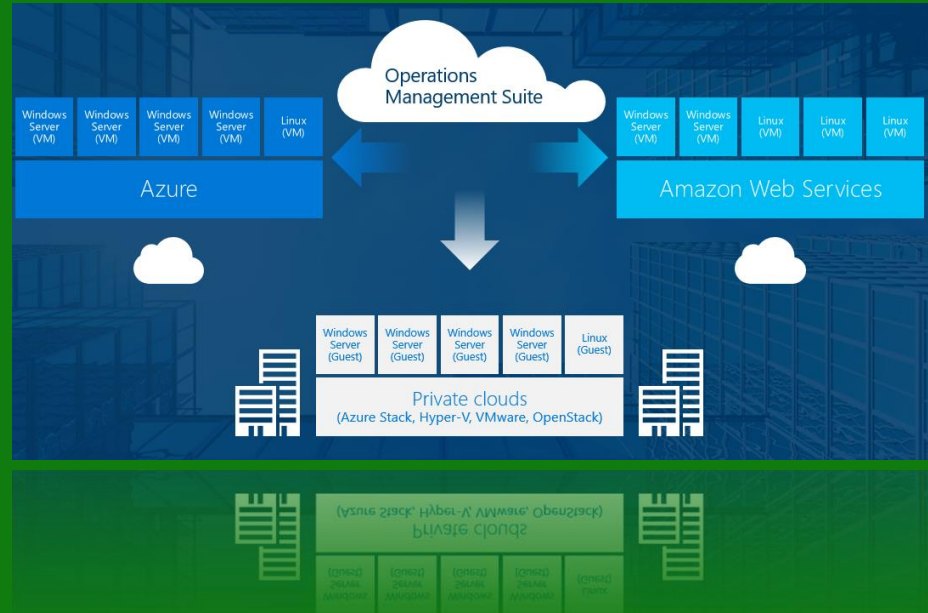
@marcelzehner

marcelzehner.ch



Quick OMS overview

- Hybrid Cloud Management
 - Azure Log Analytics
 - Azure Automation
 - Azure Security Center
 - Azure Recovery Services
- Extensibility
 - Can be extended by adding solutions to the Azure Log Analytics workspace
 - Add and forget ...

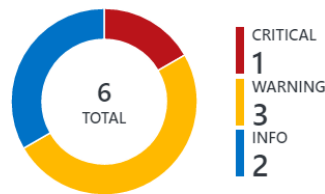


What is in a solution?

- A solution CAN contain ...
 - a mechanism to collect specific data from one or multiple sources
 - queries to extract information from the collected data
 - views to aggregate and visualize the collected data
 - alerts to enable notifications and remediation in specific scenarios

NOTABLE ISSUES

Active issue types



NAME	COUNT	SEVERITY
High priority AD assessment security re...	1	CRITICAL
Computers with insufficient protection	6	WARNING
Low priority SQL assessment security re...	4	WARNING
Computers missing critical updates	1	WARNING
Accounts failed to log on	918	INFO
Security groups created or modified	1	INFO

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Where to get solutions from?

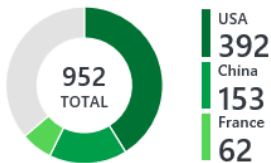
- Check out solutions gallery and Azure Marketplace
- Where to see the results?
 - OMS dashboard
 - Azure portal (this is the way to go)
 - Combine with any other Azure portal data
- Wait, there is no solution for my application/workload, what now?

Custom solutions to bring in anything

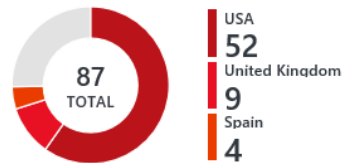
Tesla Supercharger Data



Active Superchargers Worldwide



Superchargers Worldwide Coming Soon



COUNTRY	COUNT
USA	392
Austria	14
Germany	59
Netherlands	11
Norway	34
Switzerland	12
Japan	14
Canada	28
United Kingdom	38

LOCATION	STALL COUNT
Aberdeen, MD	8
Statesville, NC	8
Keith, Australia	4
Birdhill, Ireland	8
Fort Stockton, TX	8
Kriegstetten, Switzerland	4
Dugo Selo, Croatia	6
Ger, France	4
Lauragais, France	4

Let's go through the process ...

Recipe



What is the goal of the solution?



- Ask yourself ...
 - Who are the consumers of the solution?
 - What benefit do they expect from the solution?
 - What data needs to be collected?
 - How can the data be presented in an easy-to-understand way?

How will the data be collected?

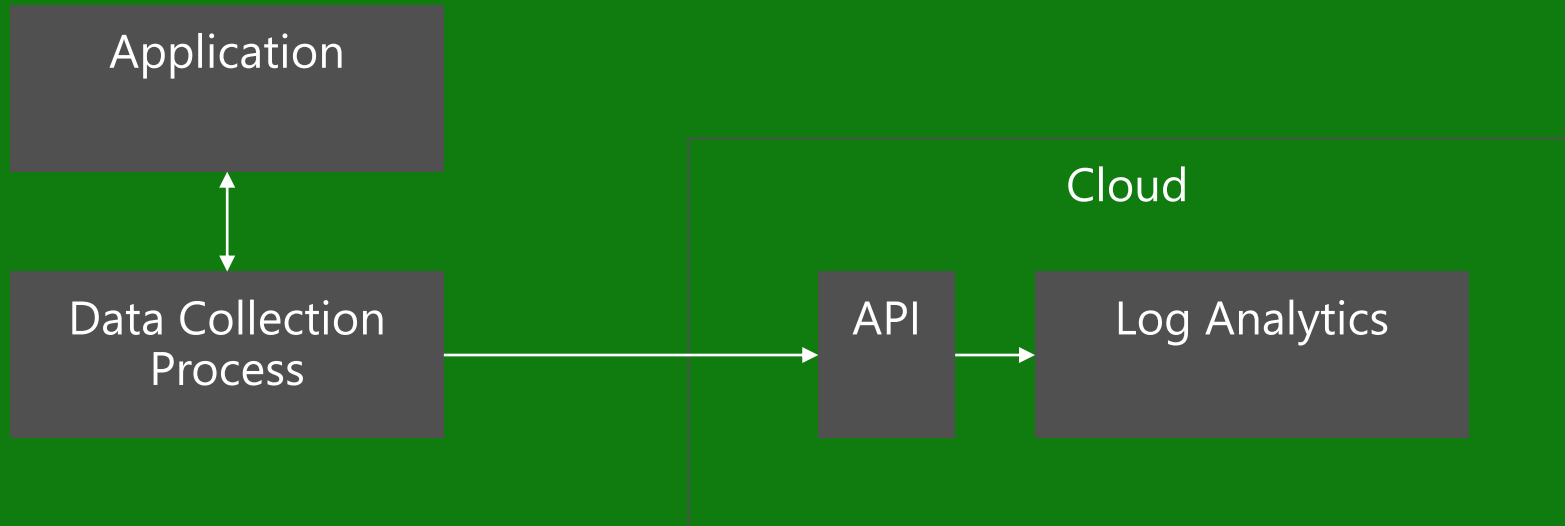
- Depends on the source system
- Possible collection methods
 - Web service
 - API/SDK
 - Log files
 - Etc.



How is the data ingested into OMS?



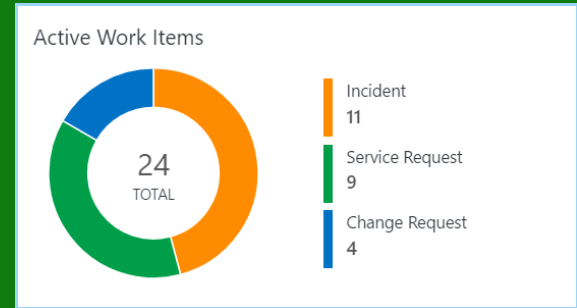
- Data needs to be in JSON format
- Submit data to the HTTP Data Collector API



My recipe for this demo



- Visualize tickets from System Center Service Manager
- Get immediate overview of active tickets
- Data will be collected with a PowerShell script
 - Scheduled Task (simple)
- Data will be ingested using the API
- View to visualize the most important data



Bake



Prepare data for ingestion



- Data needs to be in JSON format
 - Collect Data with PowerShell
 - Create a PowerShell object for every active ticket
 - Add property values
 - Pipe to "ConvertTo-Json"

```
{  
  "Title": "Server 2 has a physical disk failure",  
  "Escalated": true,  
  "Classification": "Server Hardware",  
  "AffectedUser": "Jack Jones"  
},  
{  
  "Title": "Cannot print from desktop",  
  "Escalated": false,  
  "Classification": "Not Set",  
  "AffectedUser": "Megan Masterson"  
}
```

```
]
```

Ingest data



- Use 2 functions provided by Microsoft
 - Build authorization signature
 - Ingest data
- Option: Use PowerShell module «OMSDataInjection»
 - By MVP Tao Yang

Log Analytics Data Collector Details:

<https://docs.microsoft.com/en-us/azure/log-analytics/log-analytics-data-collector-api>

Query data and create alerts



- Create queries
 - Easy-to-learn query language
 - Legacy and modern queries (V2)
 - Upgrade your workspace and use modern queries
 - Your queries will be converted
- Throw alerts when specific events are collected/discovered
 - Send mail, webhooks, Azure Automation runbooks

Microsoft Operations Management Suite



Azure Log Analytics is now enhanced – offering new interactive query language, smart analytics and even deeper insights!

Visualize data



- Create views
 - Main dashboard tile
 - Specific views (drill down)
 - Use view designer together with your queries
- Forward/query data to Power BI
 - V1
 - Create and schedule forwarding queries
 - Creates/updates Power BI dataset
 - V2
 - Directly query the data in the workspace with PowerBI

Live Demo «Bake»



Deliver



Deployment



- The full solution has multiple components
 - OMS Log Analytics workspace
 - OMS Dashboard view
 - Collection script
 - Alerts, queries and more ...
- Use Azure Resource Manager (ARM) for deployment
 - Declarative approach
 - Deliver all components of the solution together using the ARM APIs

Create and deploy ARM Templates



- Create template
 - Visual Studio or Visual Studio Code
- Deploy template
 - Visual Studio or Visual Studio Code
 - PowerShell > New-AzureRMResourceGroupDeployment
- Azure CLI
 - az group deployment create
- Use template deployment in Azure Portal
- Publish to Azure Marketplace

Best practices

- Use SCM
 - Git etc.
- Use release pipeline
 - VSTS etc.



Live Demo «Deliver»



Enjoy



Enjoy

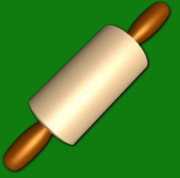


- Enjoy your solution
- Ask the consumers if they like the result
- Improve the solution over and over again
 - Continuous improvement process

Recap



OMS Solution Lifecycle



Download Example Files

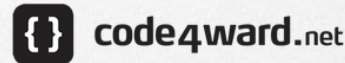


- github.com/MarcelZehner/OMSServiceManagerSolution
 - Collection script
 - Excel file with queries
 - Exported OMS view
 - JSON template

The screenshot shows the GitHub repository page for `MarcelZehner / OMSServiceManagerSolution`. The repository has 33 commits, 1 branch, 0 releases, and 1 contributor. The file list includes:

File Name	Description	Time
Azure LA V1 Version	Reorganized V1 & V2	35 minutes ago
Ingest-SCSMWorkItems.ps1	Updated V2 files	10 minutes ago
Queries.xlsx	Updated V2 files	10 minutes ago
README.md	Updated JSON file	2 minutes ago
SCSM Work Items.omsview	Updated V2 files	10 minutes ago
SCSMSolution.json	Updated JSON file	2 minutes ago

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