Windows Azure Batch Ibiza explorations

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Scenario

PERSONA

- Developers build upper level services on top of Windows Azure Batch, e.g.:
 - WAMS developers;
 - TW Moses developer Cameron.
- DevOps manage and operate on underlying services, e.g.:
 - WAMS PM;
 - TW Ops.

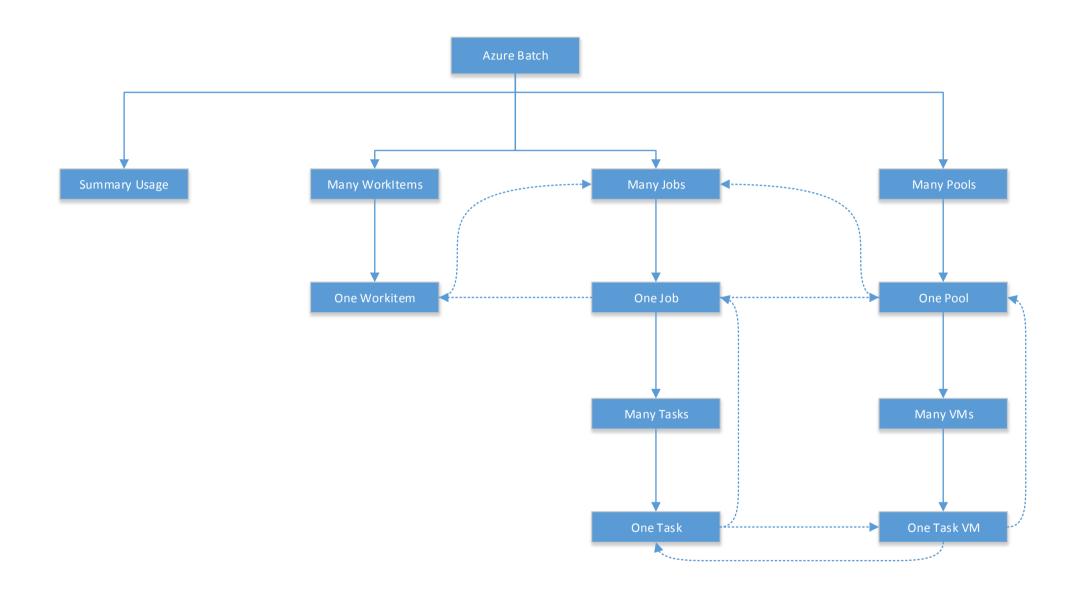
USER PAIN POINTS

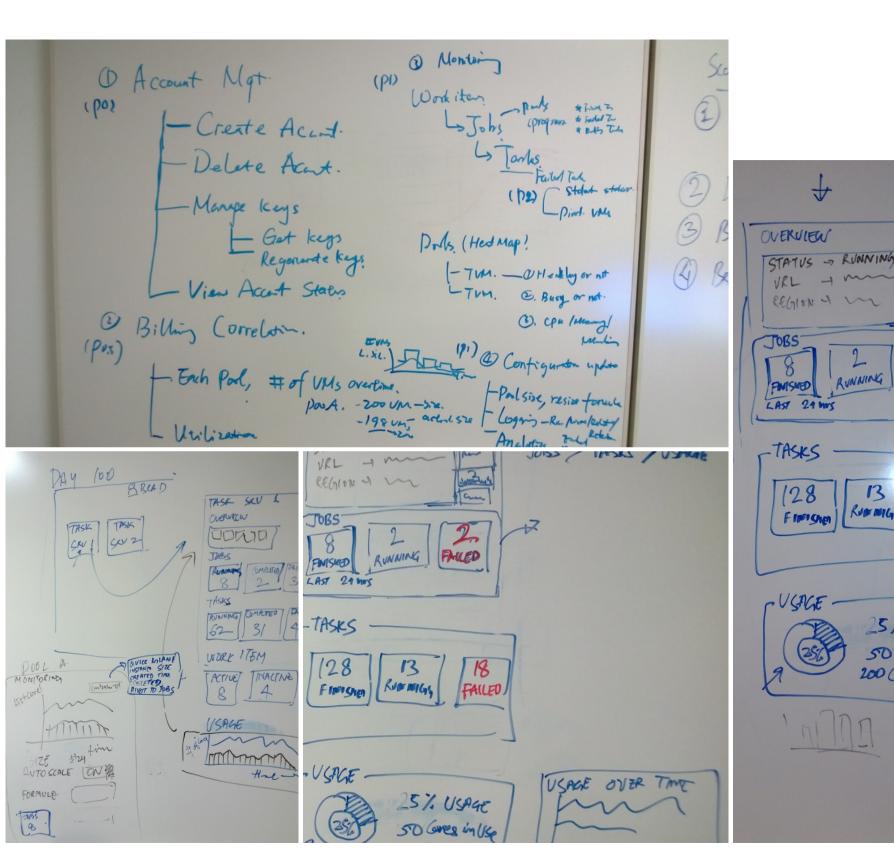
- I don't have an integrated way to monitor and manage underlying services like
 Windows Azure Batch except for the REST API/CLI interfaces.
- I don't have an easy way to understand my resource utilization to correlate with the bill I get and be more cost effective.
- I don't have an easy way to monitor my jobs after submitting to Windows Azure Batch, monitor the resource utilization while the tasks running and troubleshoot if any issues happen.

HAPPY ENDING

- I can use Azure management portal to easily provision a "Batch" service.
- I can view my resource usage from portal to correlate with the bill I get to be more cost effective.
- I can interact with my Azure Batch deployments, which includes monitoring the current and historical work items, jobs and tasks, viewing the list of pools and monitoring the health/performance of Task VMs, updating configurations.

Overview

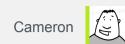






Scenario I: Account Management

Windows Azure





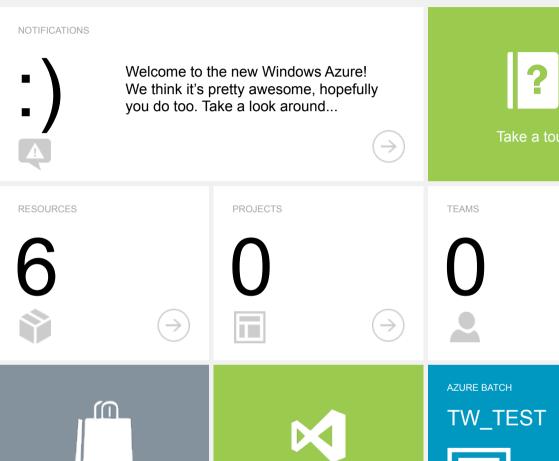


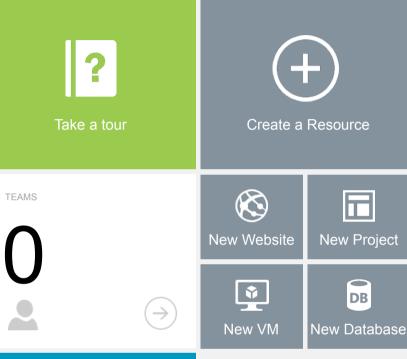












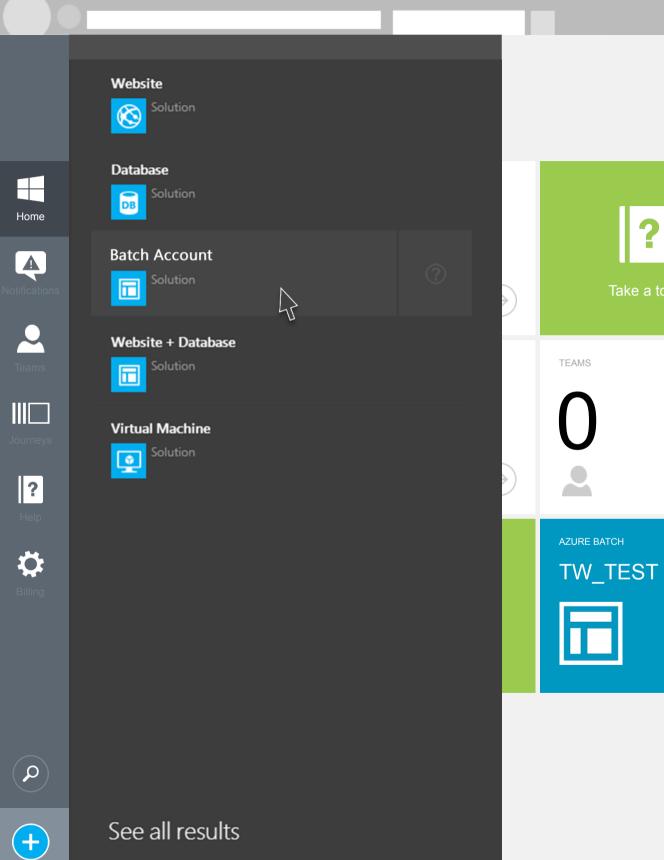




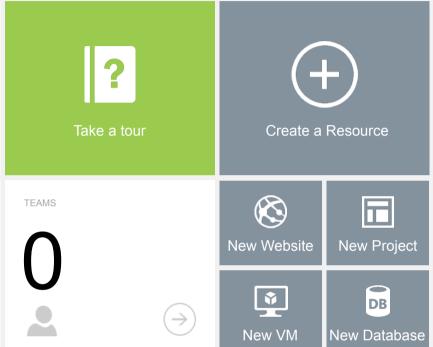




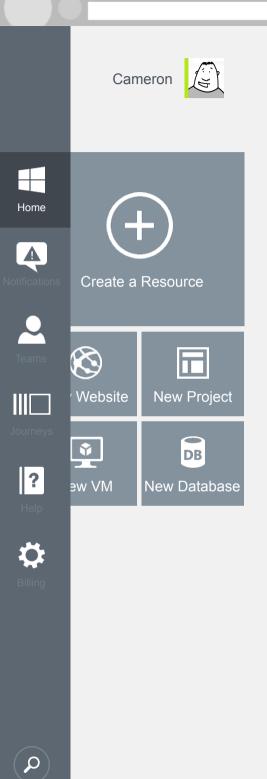


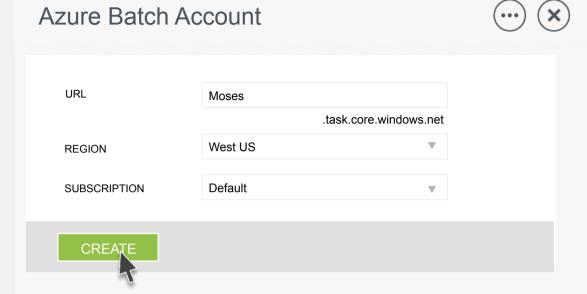














Windows Azure



New Project

DB

New Database



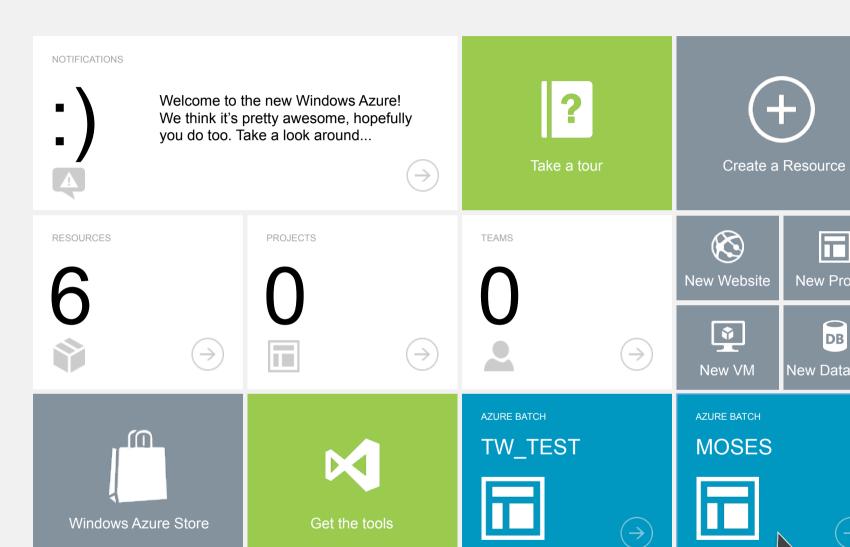






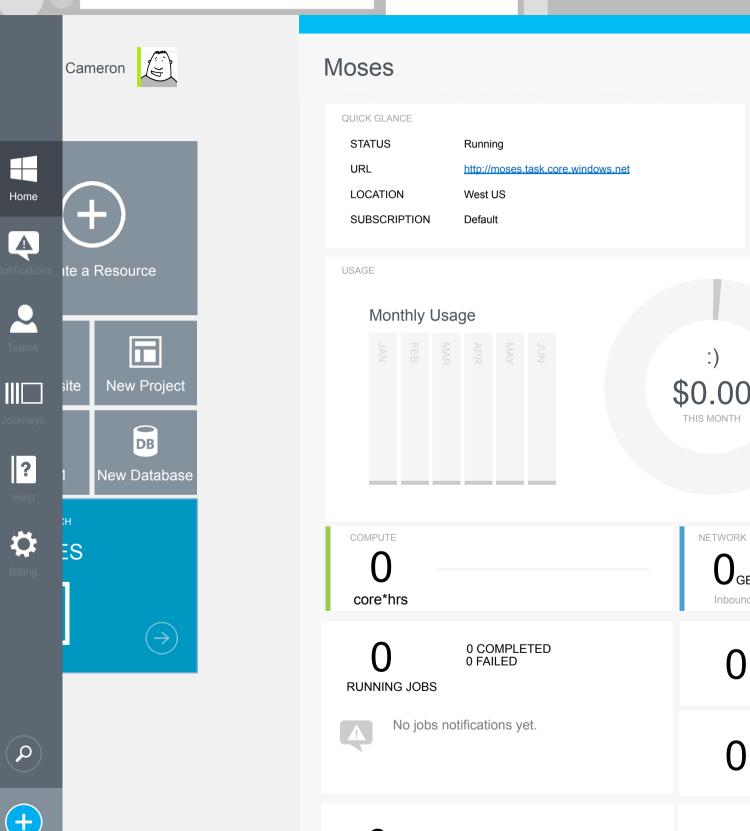


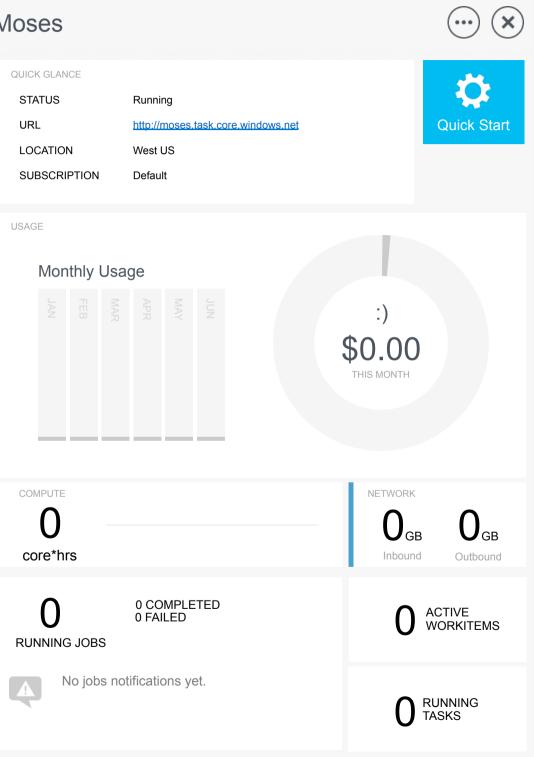






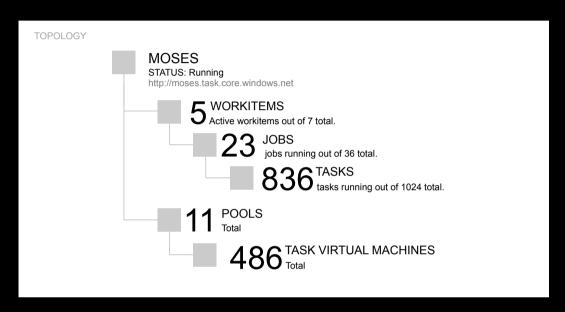






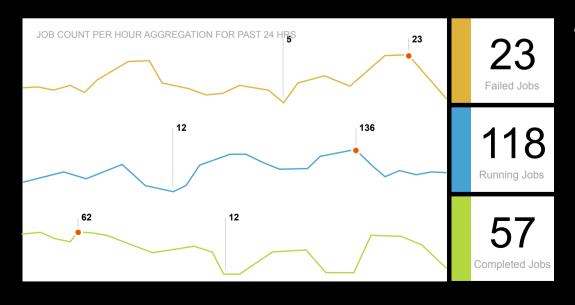


Other explorations



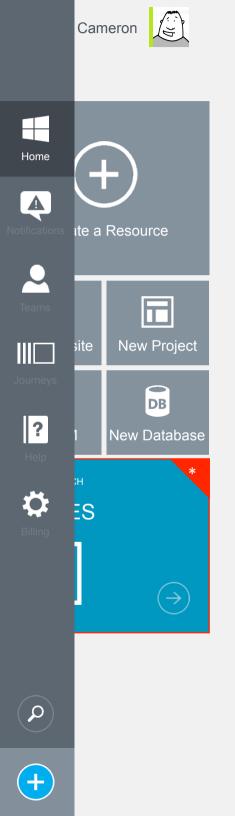
Service Topology

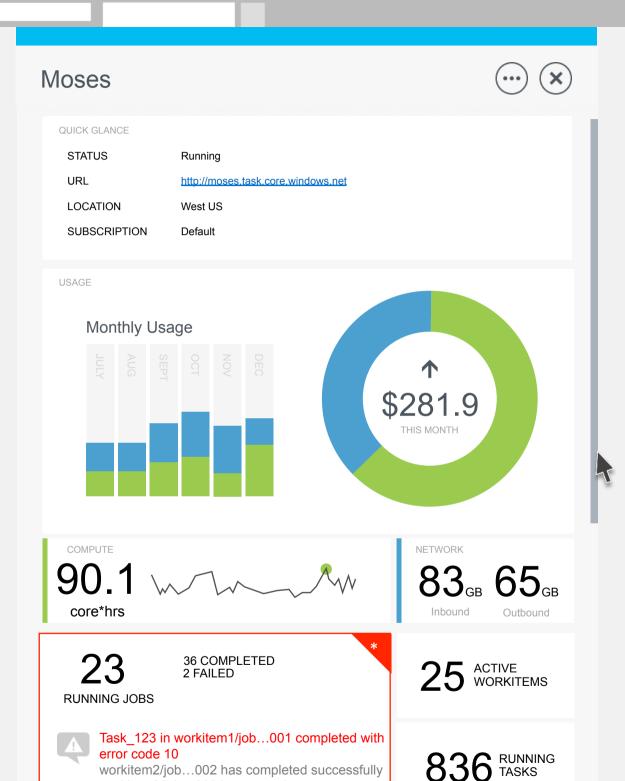
 Used to show relationship between different concepts like workitems, jobs, tasks etc. in Azure Batch.



Trending

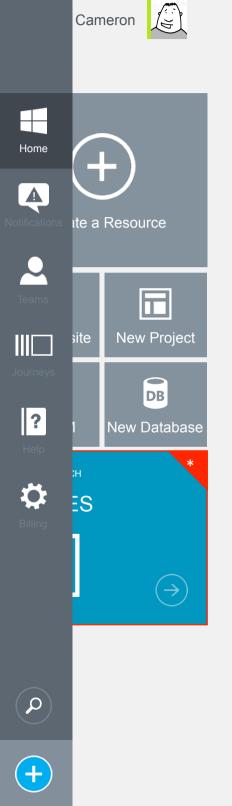
Used to visualize trending of jobs and task completion over time.

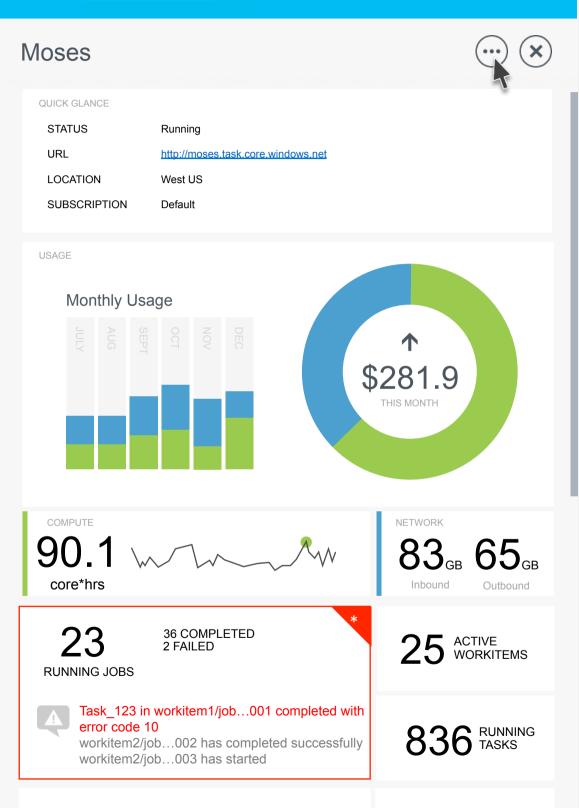


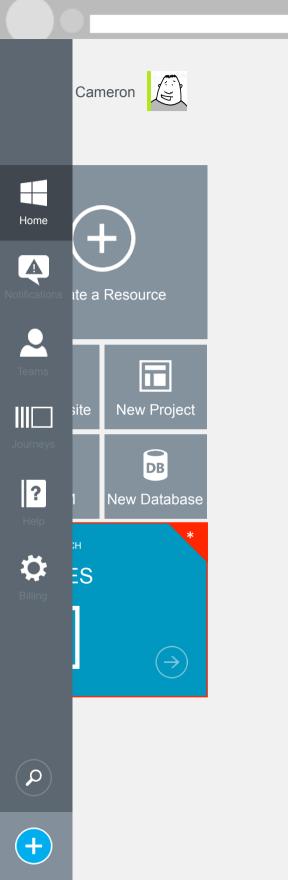


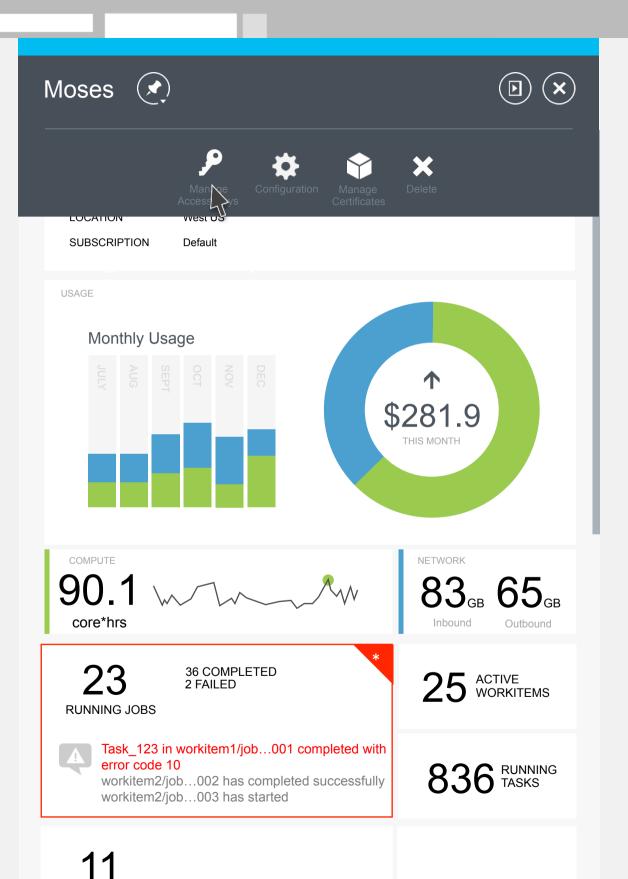
1

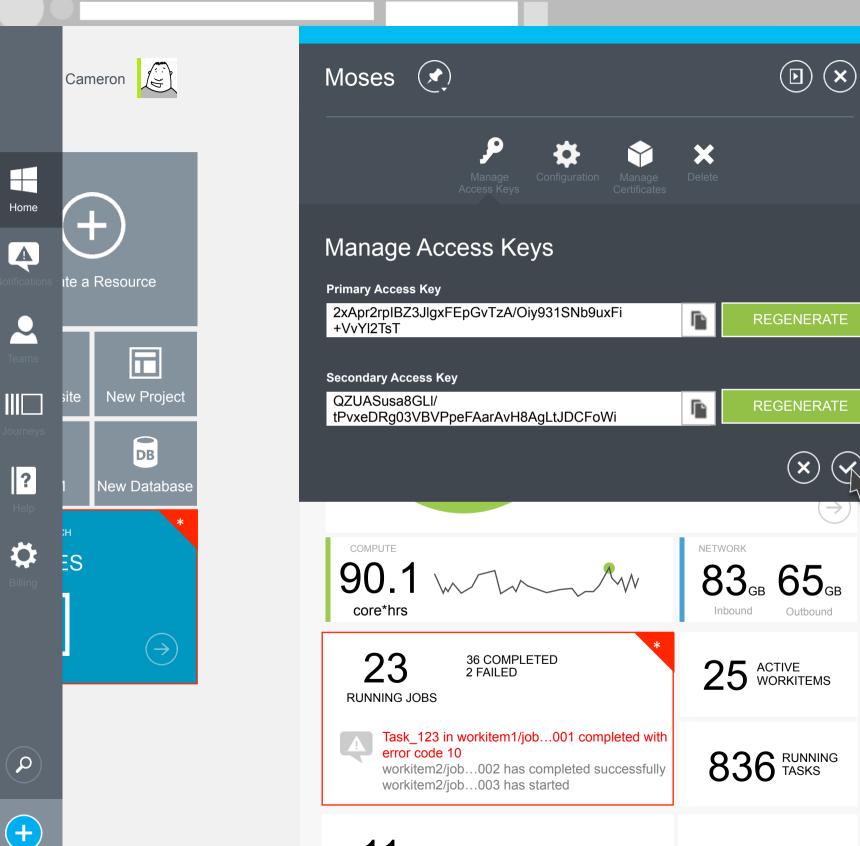
workitem2/job...003 has started

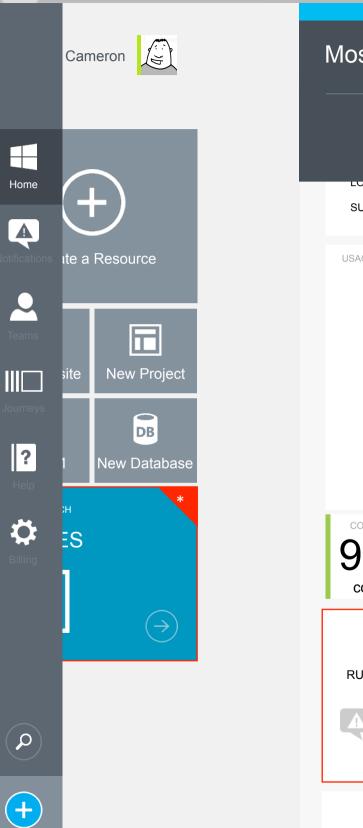


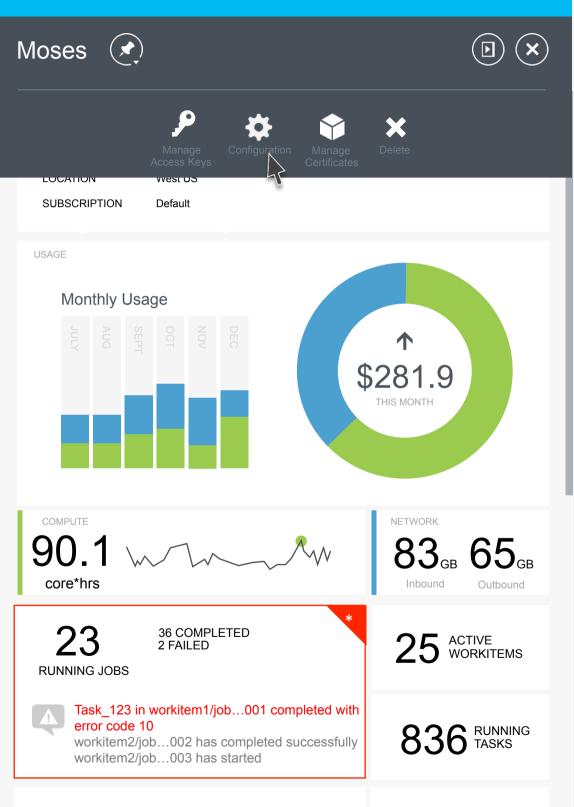


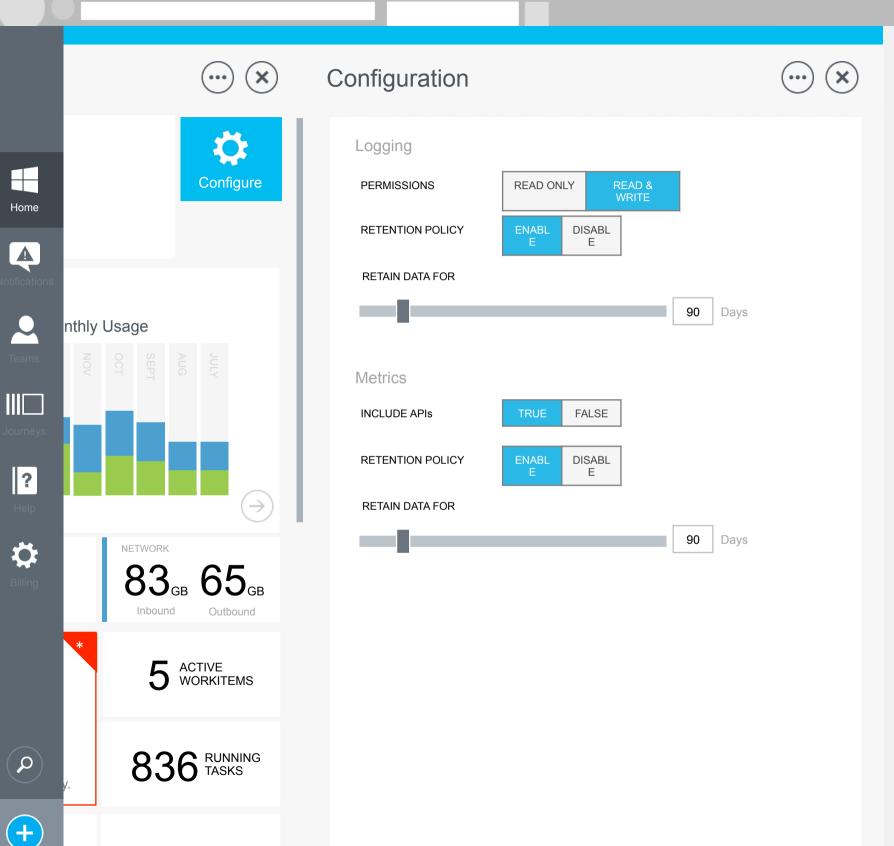




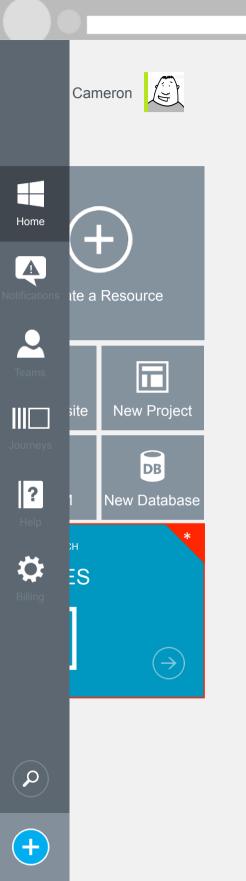


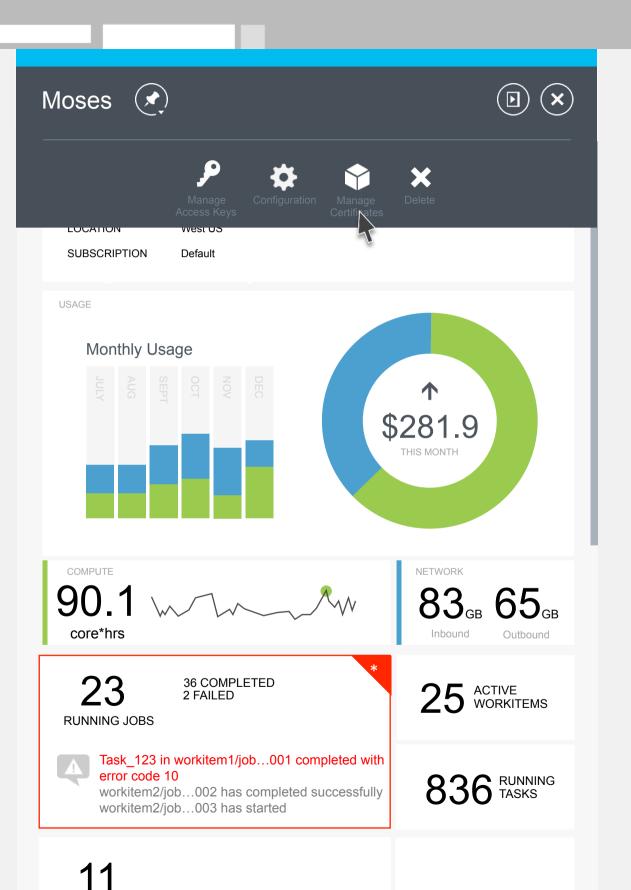


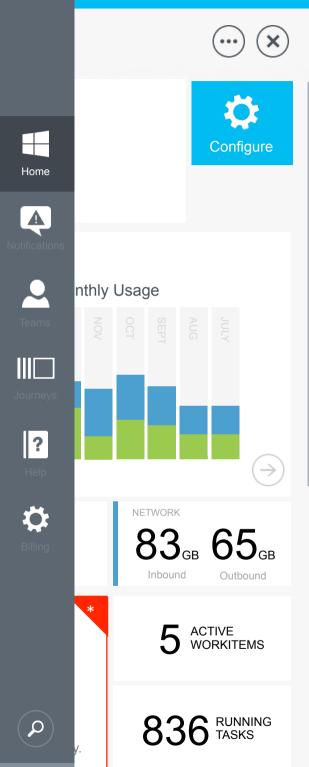










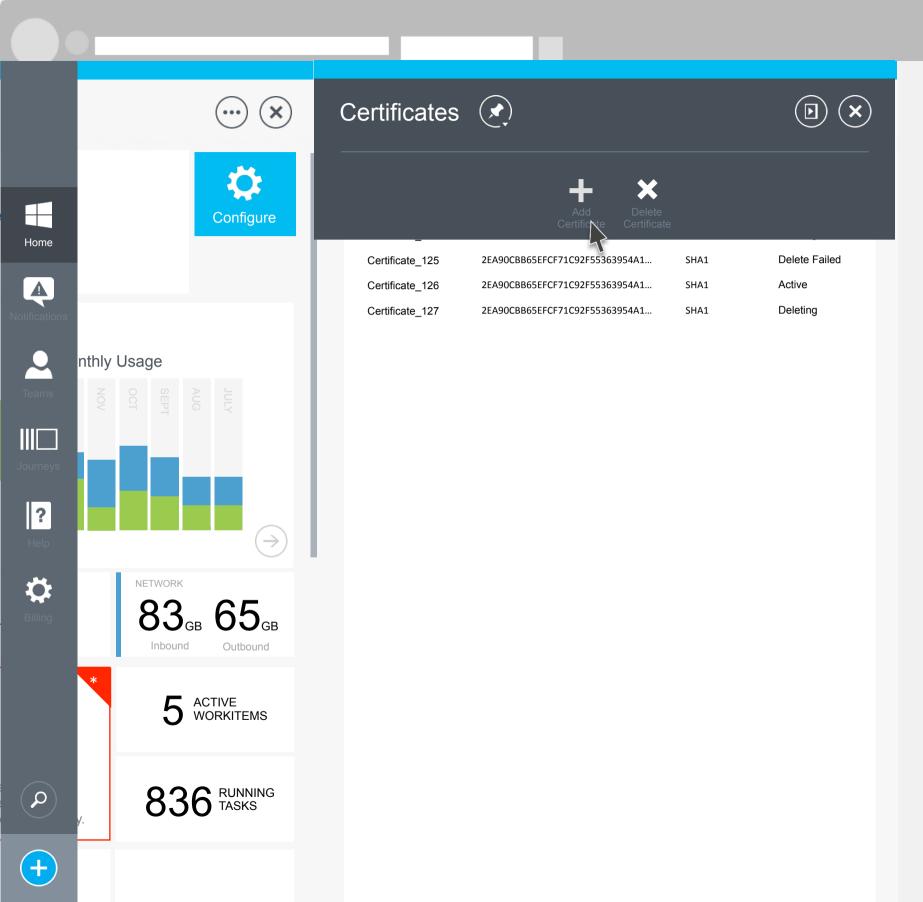


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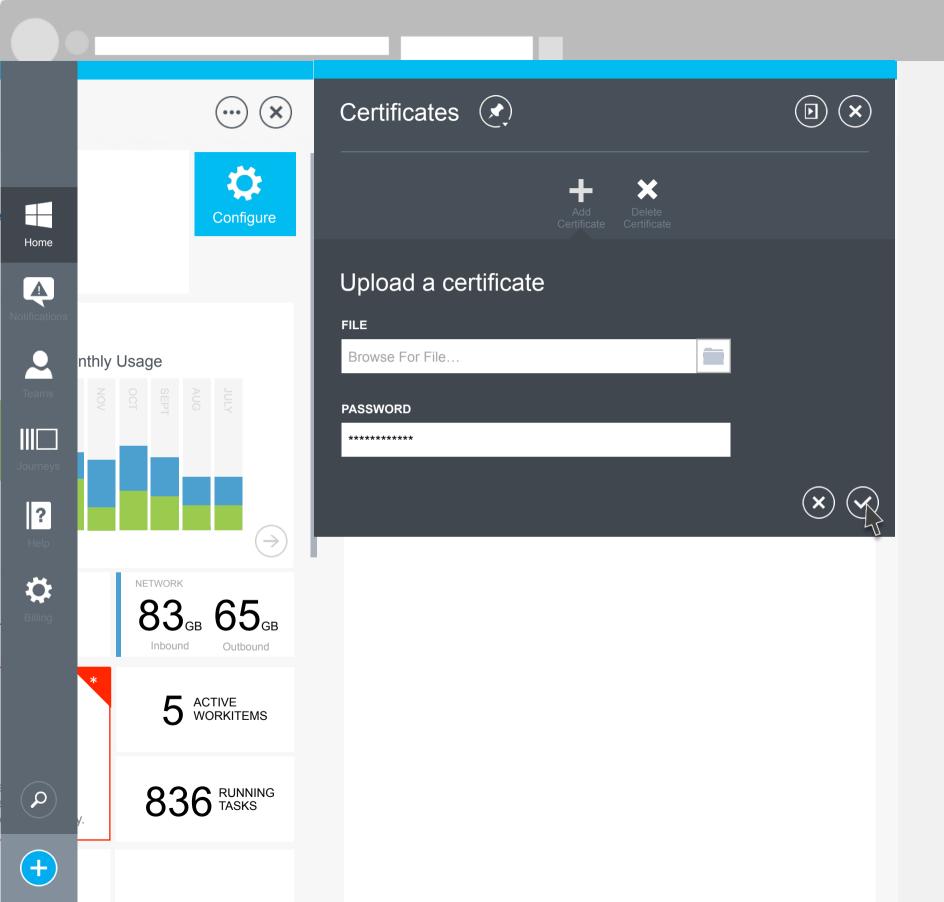


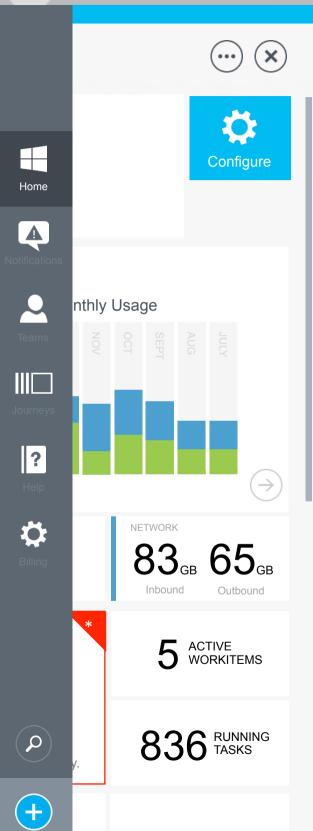
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|-----------------|--------------------------------|-----------|---------------|
| Certificate_123 | 2EA90CBB65EFCF71C92F55363954A1 | SHA1 | Active |
| Certificate_124 | 2EA90CBB65EFCF71C92F55363954A1 | SHA1 | Deleting |
| Certificate_125 | 2EA90CBB65EFCF71C92F55363954A1 | SHA1 | Delete Failed |
| Certificate_126 | 2EA90CBB65EFCF71C92F55363954A1 | SHA1 | Active |
| Certificate_127 | 2EA90CBB65EFCF71C92F55363954A1 | SHA1 | Deleting |

Certificates







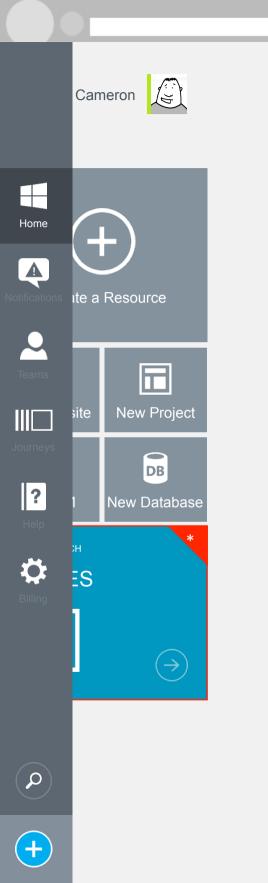


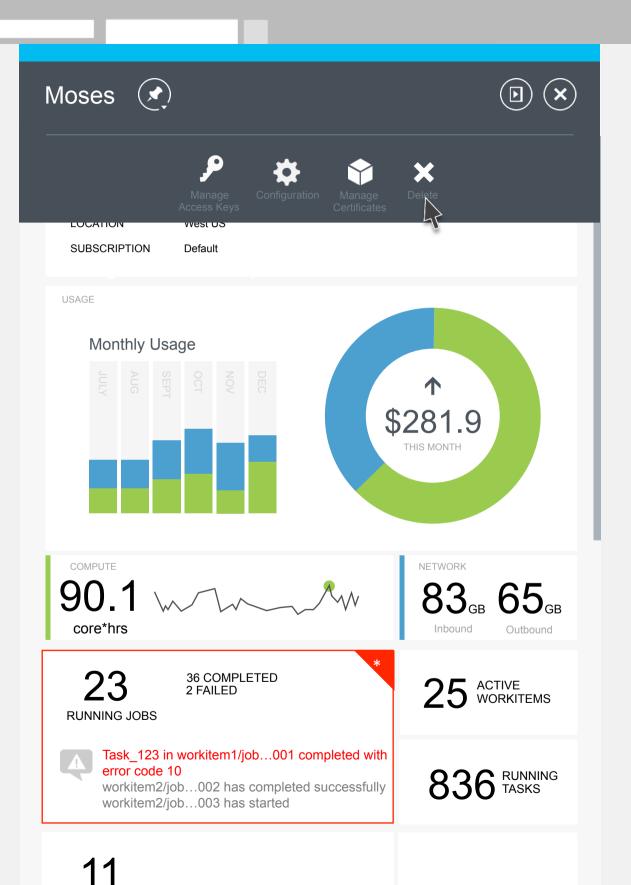


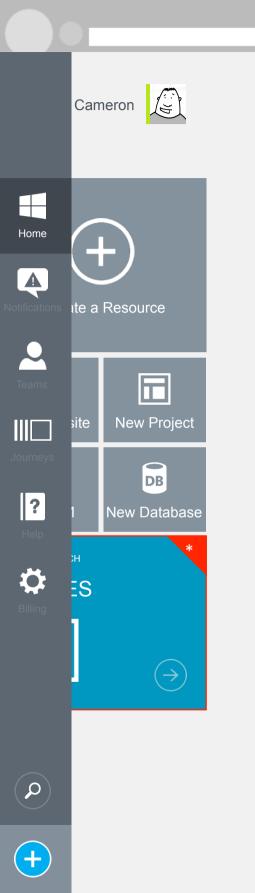


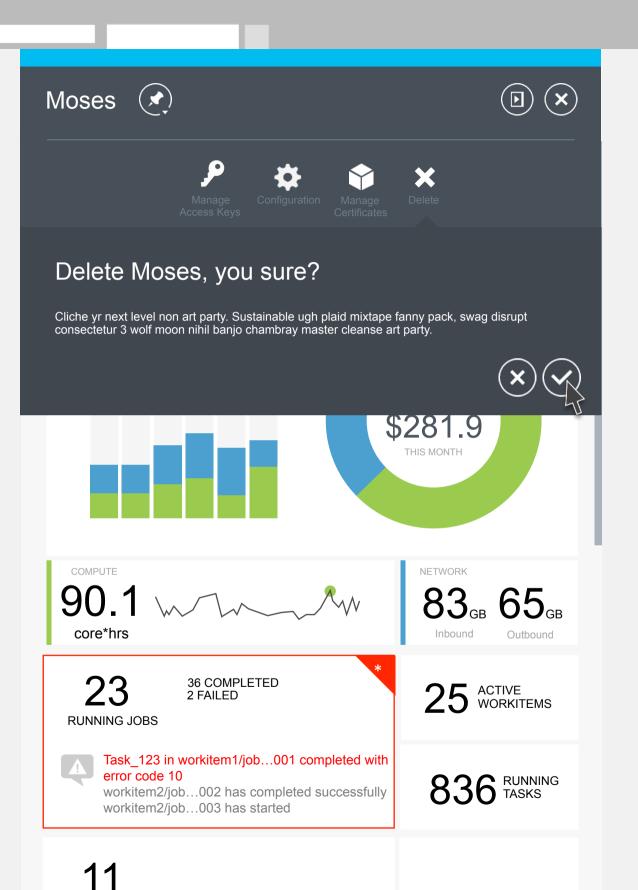
| NAME | THUMBPRINT | ALGORITHM | STATE |
|-----------------|--------------------------------|-----------|---------------|
| Certificate_123 | 2EA90CBB65EFCF71C92F55363954A1 | SHA1 | Active |
| Certificate_124 | 2EA90CBB65EFCF71C92F55363954A1 | SHA1 | Deleting |
| Certificate_125 | 2EA90CBB65EFCF71C92F55363954A1 | SHA1 | Delete Failed |
| Certificate_126 | 2EA90CBB65EFCF71C92F55363954A1 | SHA1 | Active |
| Certificate_127 | 2EA90CBB65EFCF71C92F55363954A1 | SHA1 | Deleting |

Certificates

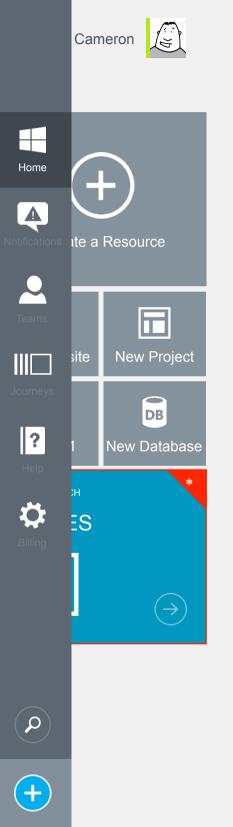


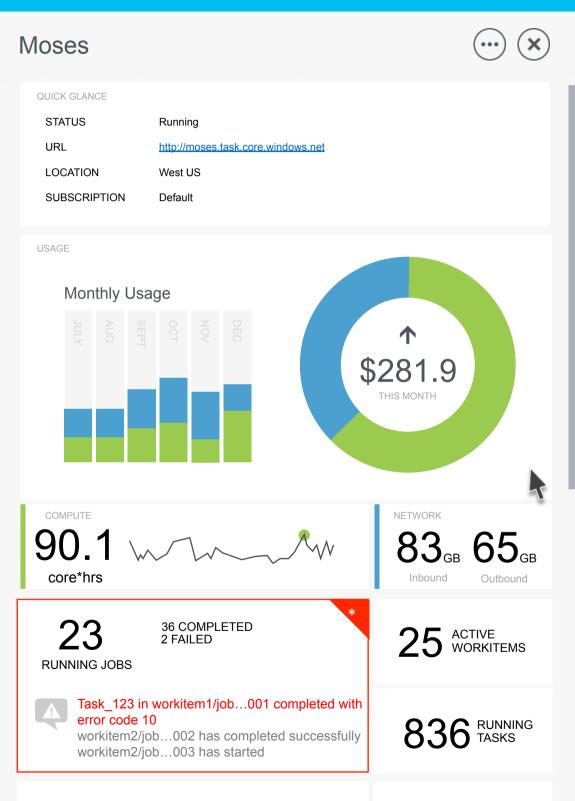


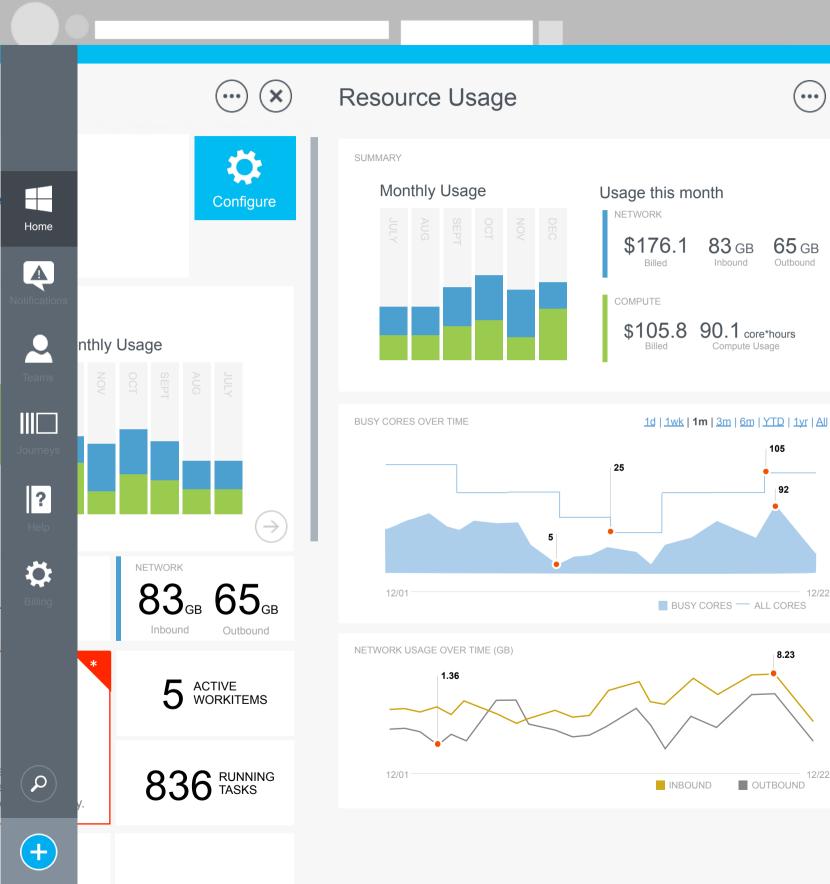




Scenario II: Billing Correlation









83 GB 65 GB

105

OUTBOUND

■ BUSY CORES — ALL CORES

12/22

Exploration with timeline filters as links.





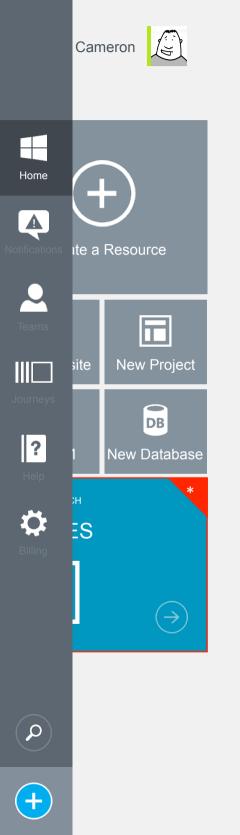
Exploration with timeline filters as slider.

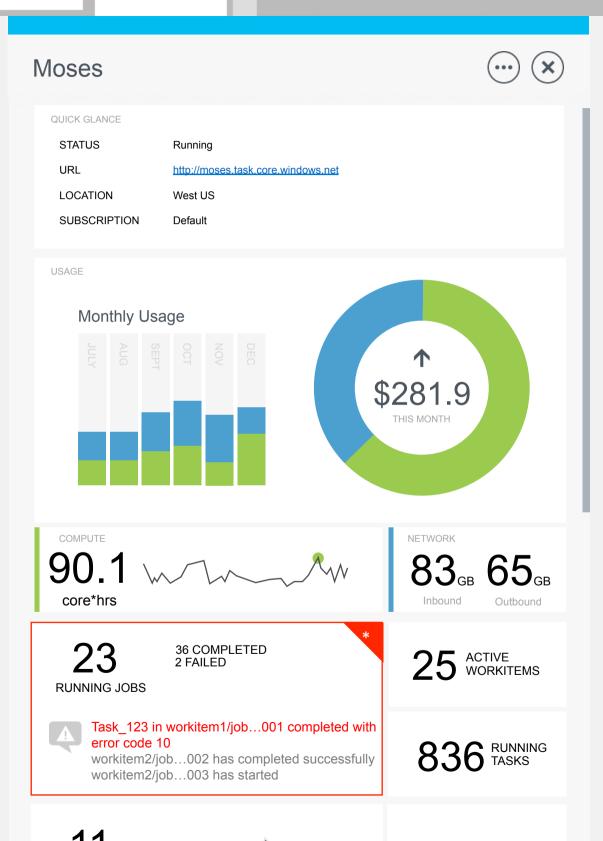


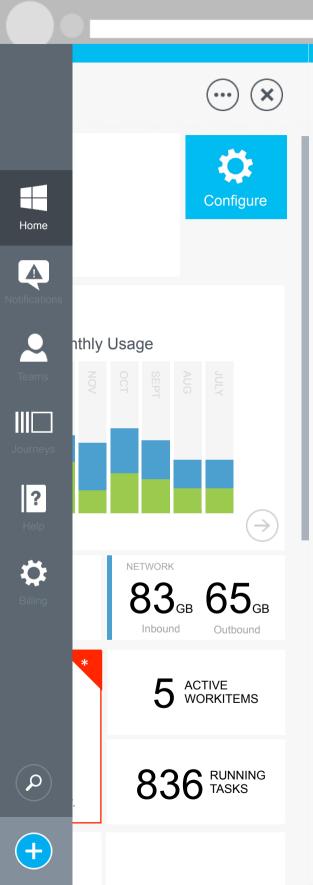




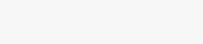
Scenario III: Monitoring



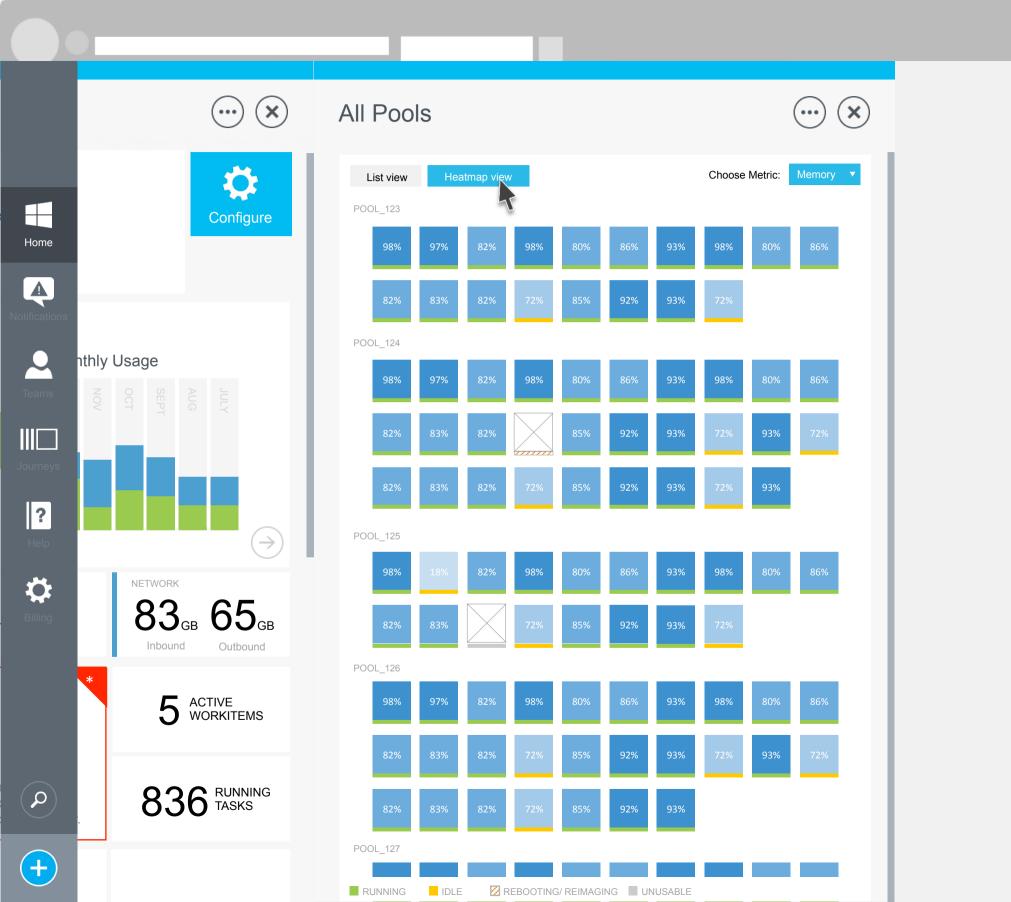


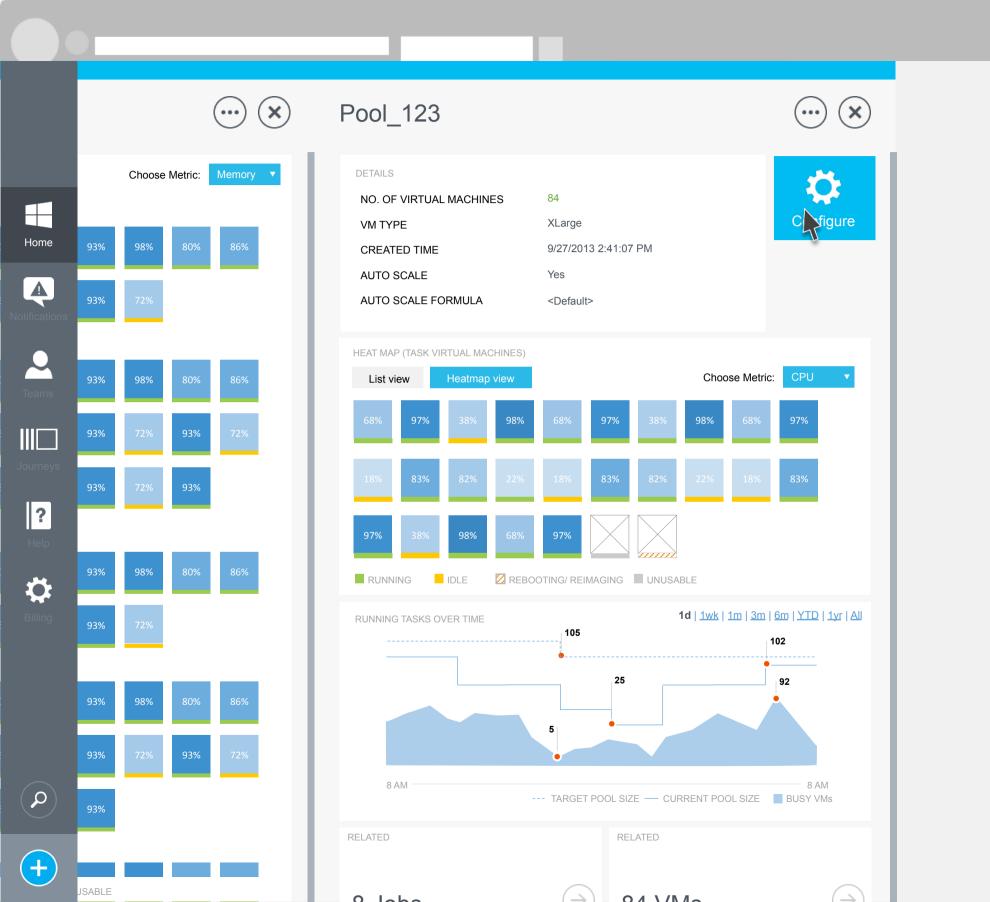


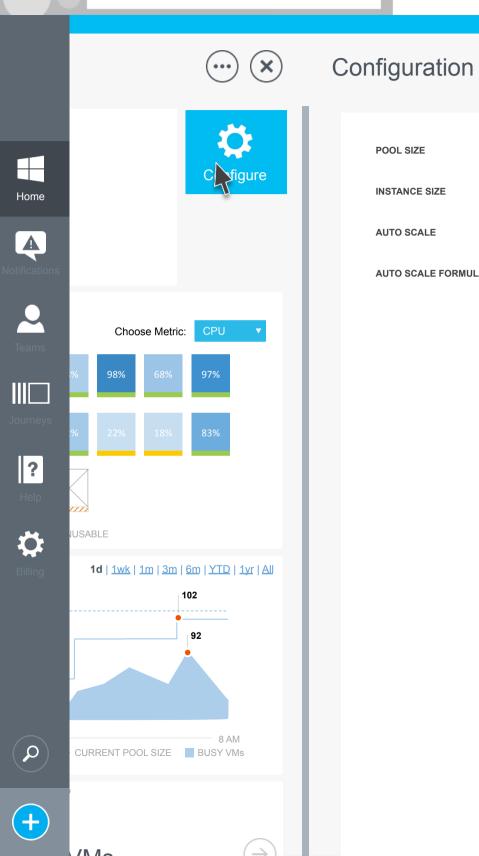
All Pools



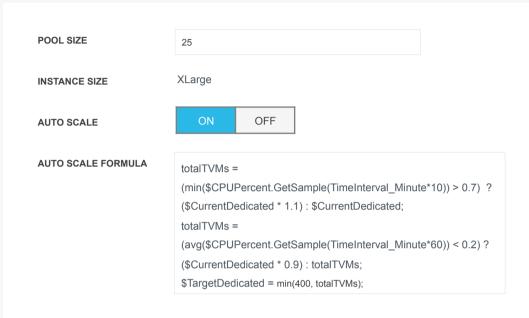


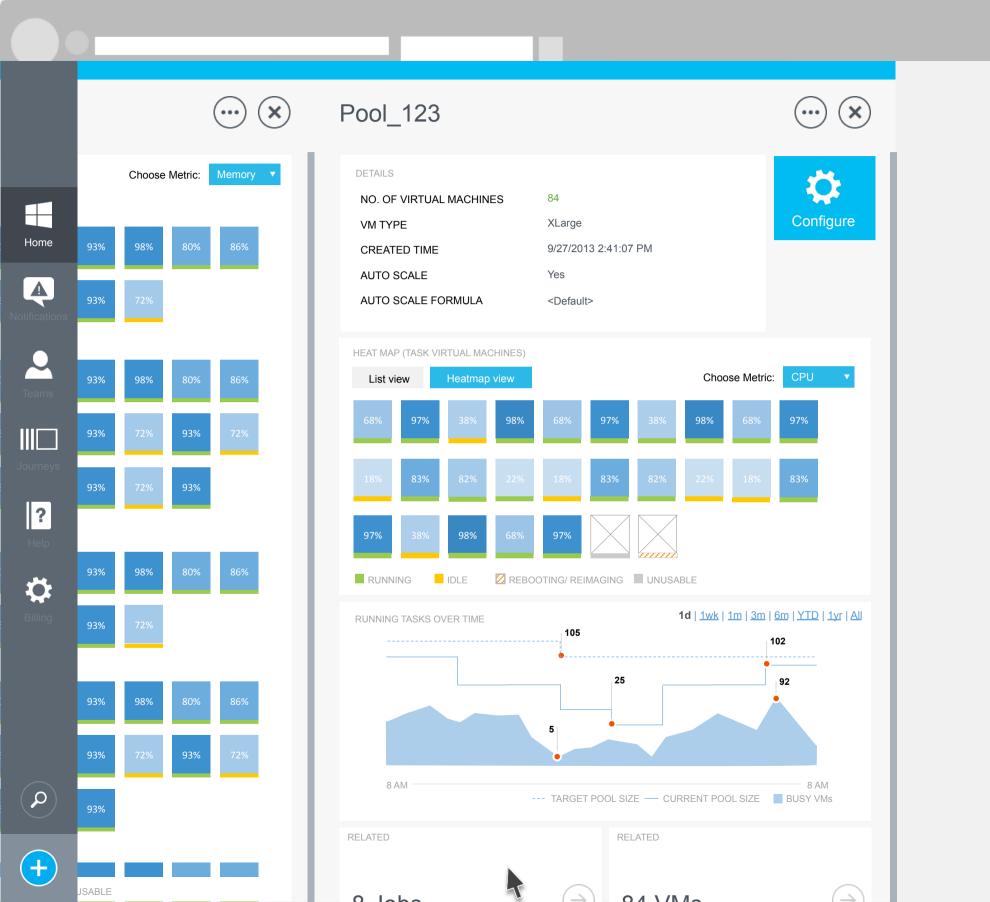


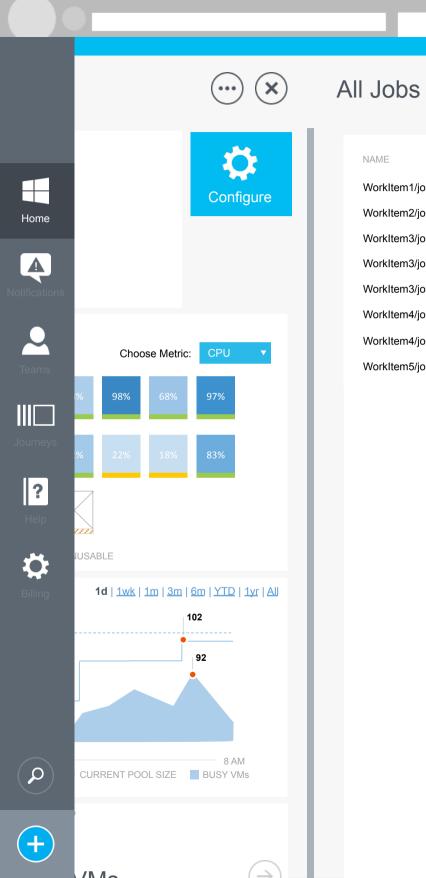




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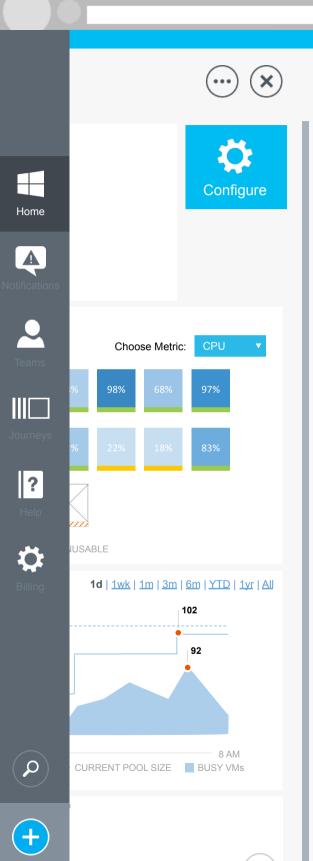












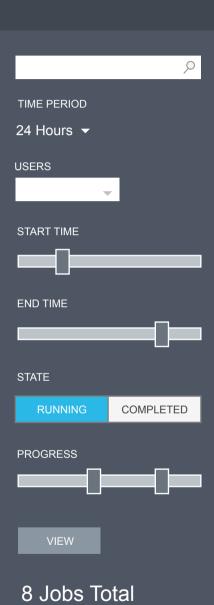


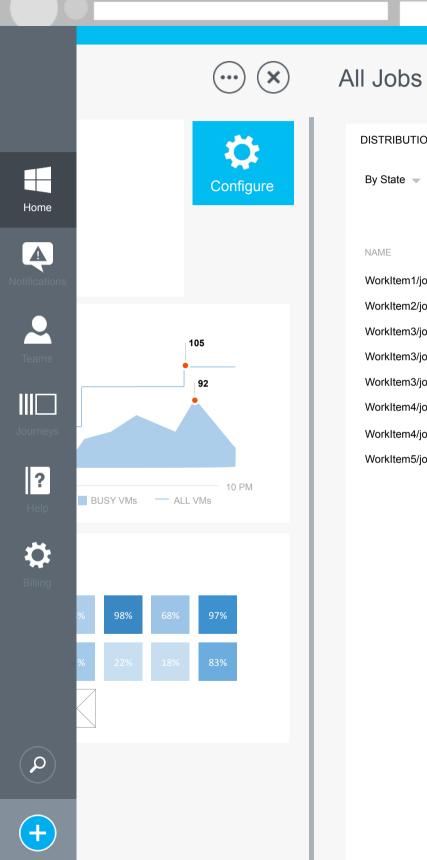


All Jobs

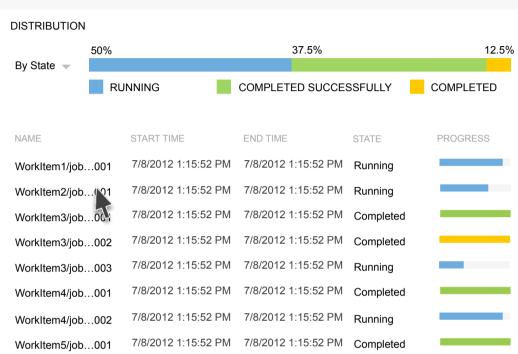


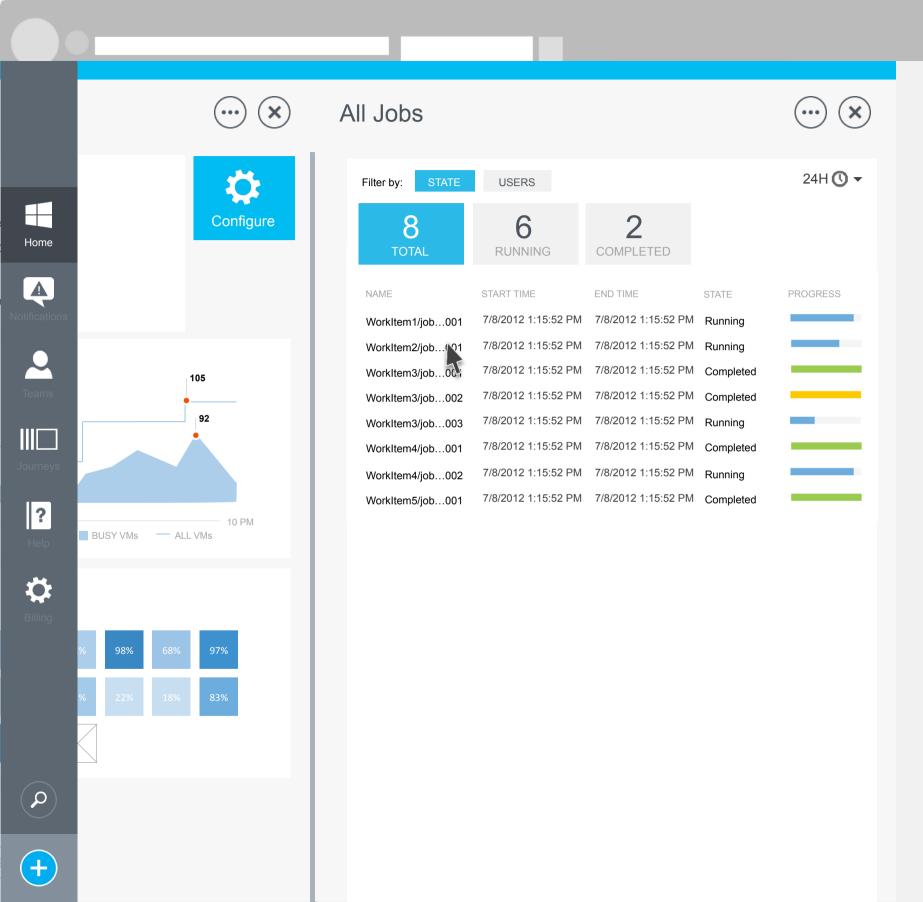
Filter total job results



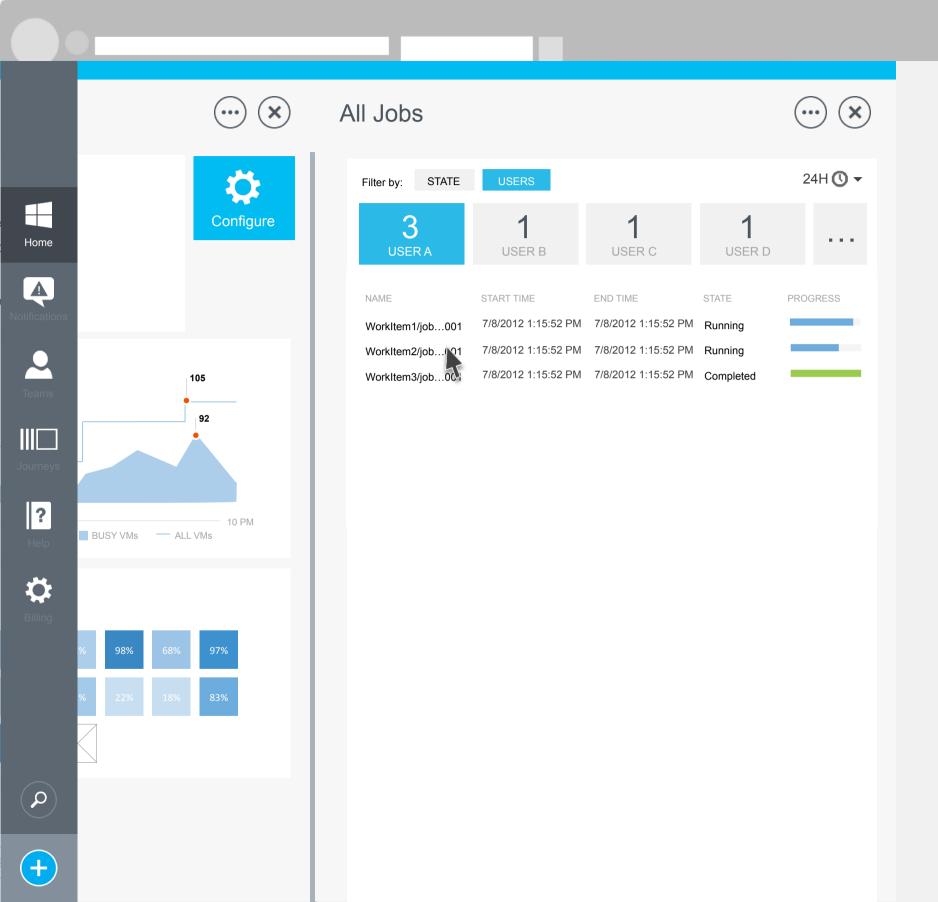




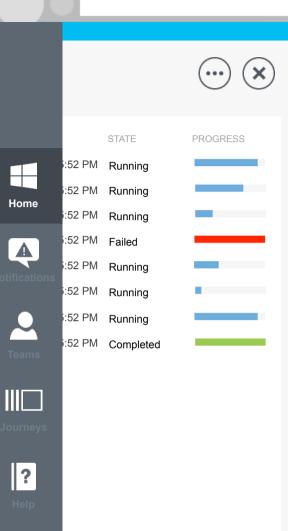


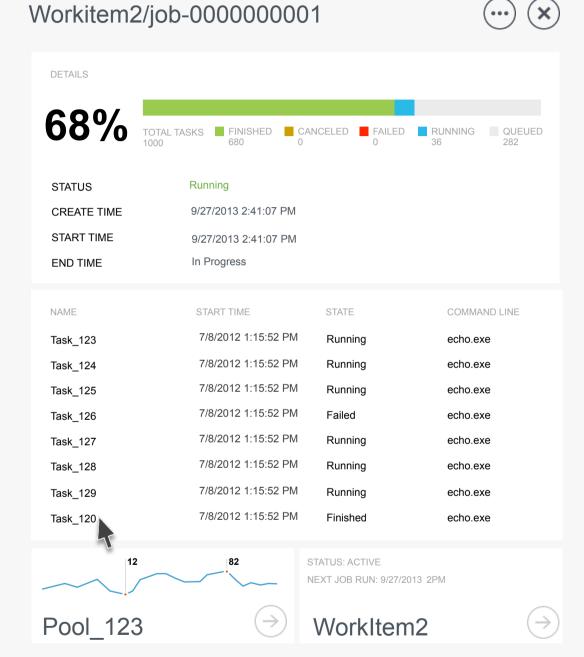






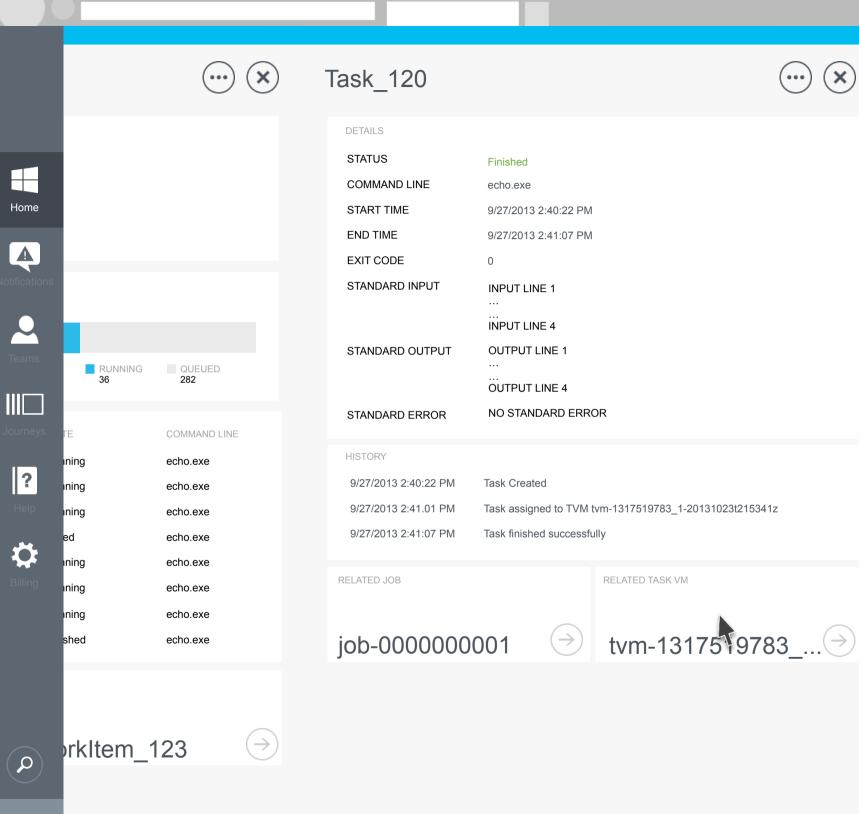




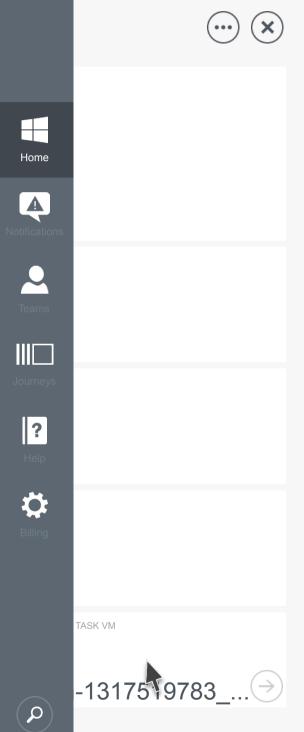








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DETAILS

STATE

CONNECTIVITY

DIAGNOSTICS

Pool_123

LOCATION

ERROR MESSAGE

Running

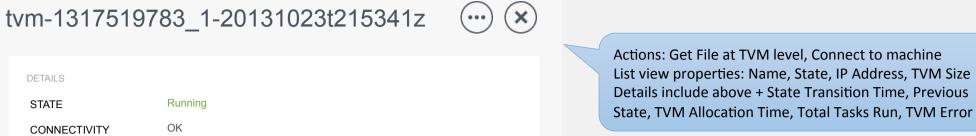
No failures

OK

None

Chicago

Task_123





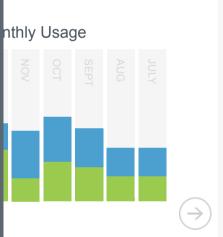


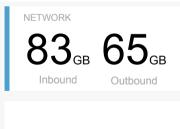
All Workitems











| 5 ACTIVE WORKITEMS |
|--------------------|
| 836 RUNNING TASKS |

| NAME | START TIME | STATE | PREVIOUS STATE |
|-----------|---------------------|-----------|----------------|
| WorkItem1 | 7/8/2012 1:15:52 PM | Active | Active |
| WorkItem2 | 7/8/2012 1:15:52 PM | Active | Active |
| WorkItem3 | 7/8/2012 1:15:52 PM | Active | Active |
| WorkItem4 | 7/8/2012 1:15:52 PM | Completed | Active |
| WorkItem5 | 7/8/2012 1:15:52 PM | Active | Active |

List view properties: Name, Create Time, State,

Details include above + State Transition Time, Previous State, Schedule description (start window + don't run until + don't run after + recurring interval), job specification (priority, job constraints (max wall clock time, max task retry count), job manager task (name, command line, list of resource files), task constraints (max wall clock time, retention time, max task retry count), kill on job completion), pool name or auto-pool specification (name prefix, life time option, keep alive, TVM size, Target # of TVMs, Enable Auto-scale)





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Workitem1

DETAILS





ATE PREVIOUS STATE

Active

Active

Active

Active

Active









Workitem1 NAME

9/27/2013 2:41:07 PM CREATE TIME

Active STATE

STATE TRANSITION TIME 9/27/2013 2:41:07 PM

PREVIOUS STATE None

<Start Window>, <Don't Run Until>, <Don't Run After>, SCHEDULE DESCRIPTION

<Recurring Interval>

JOB MANAGER TASK

<Name> NAME

<Command Line> COMMAND LINE

LIST OF RESOURCE FILES <List Of Resource Files>



Pool_123

2 Jobs





