



cloud
strategy
day


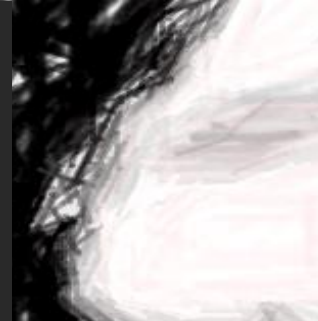
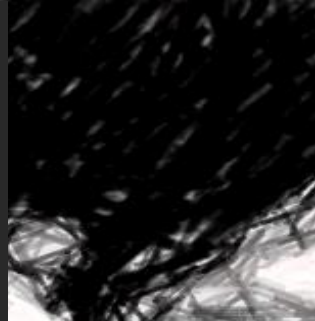
“How the Microsoft cloud enables the best App experiences across devices”

beat schwegler - director, platform strategy group, Microsoft corp.
beatsch@microsoft.com - <http://cloudbeatsch.com> - @cloudbeatsch


agenda



Microsoft's
devices and
services
strategy



making
money with
apps



cloud enabled
app scenarios
with Windows
Azure



key
architectural
considerations

chapter IV



service
architecture



data
partitioning



multitenancy



DevOps



integration





service
architecture

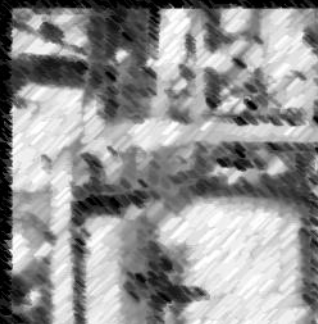
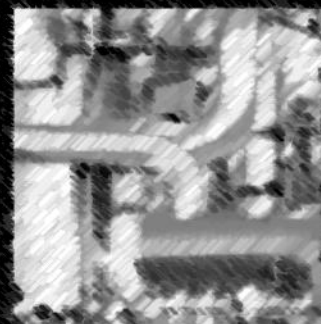
data
partitioning

multitenancy

design



integration



service architecture

Device Client/Browser

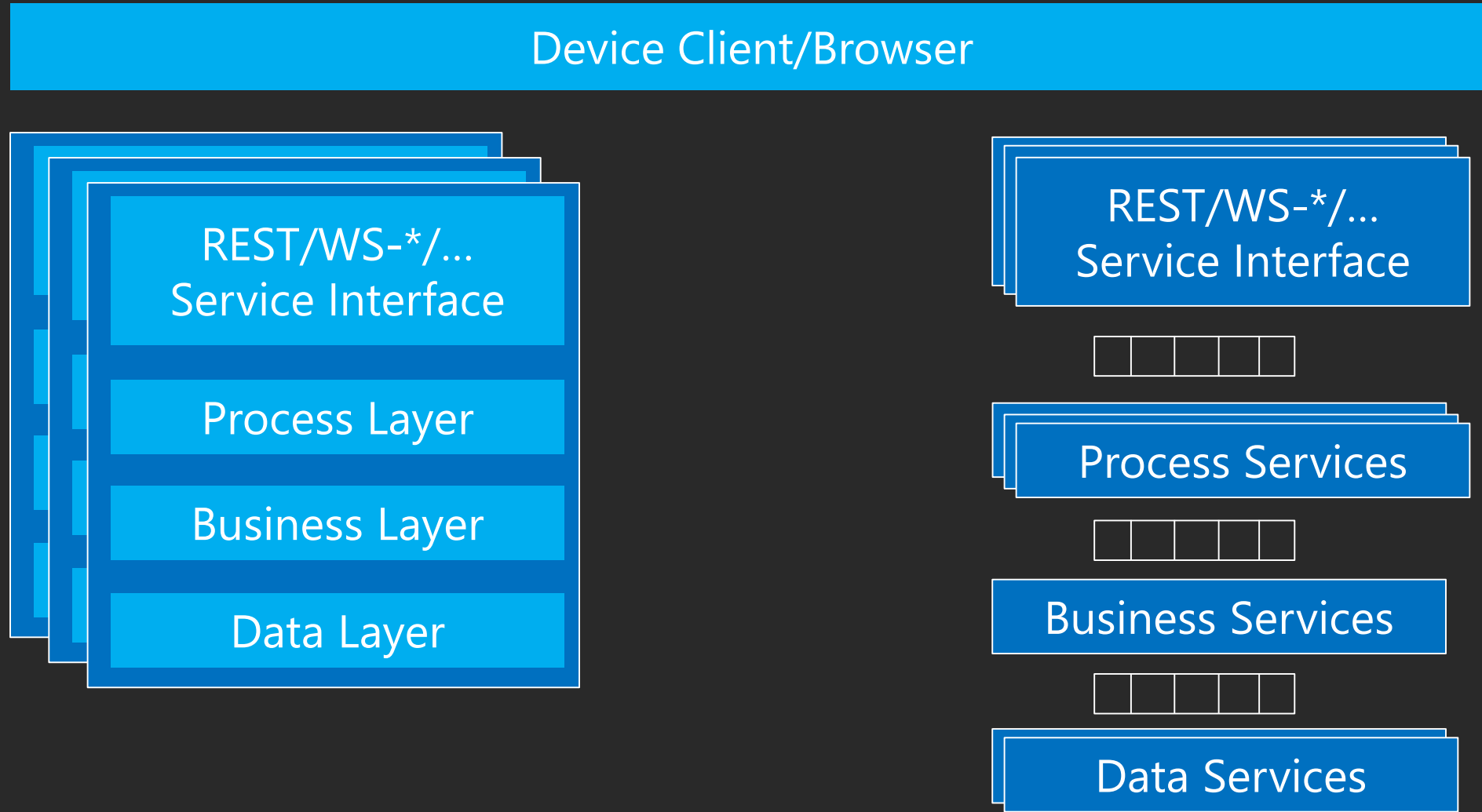
REST/WS-*/...
Service Interface

Process Layer

Business Layer

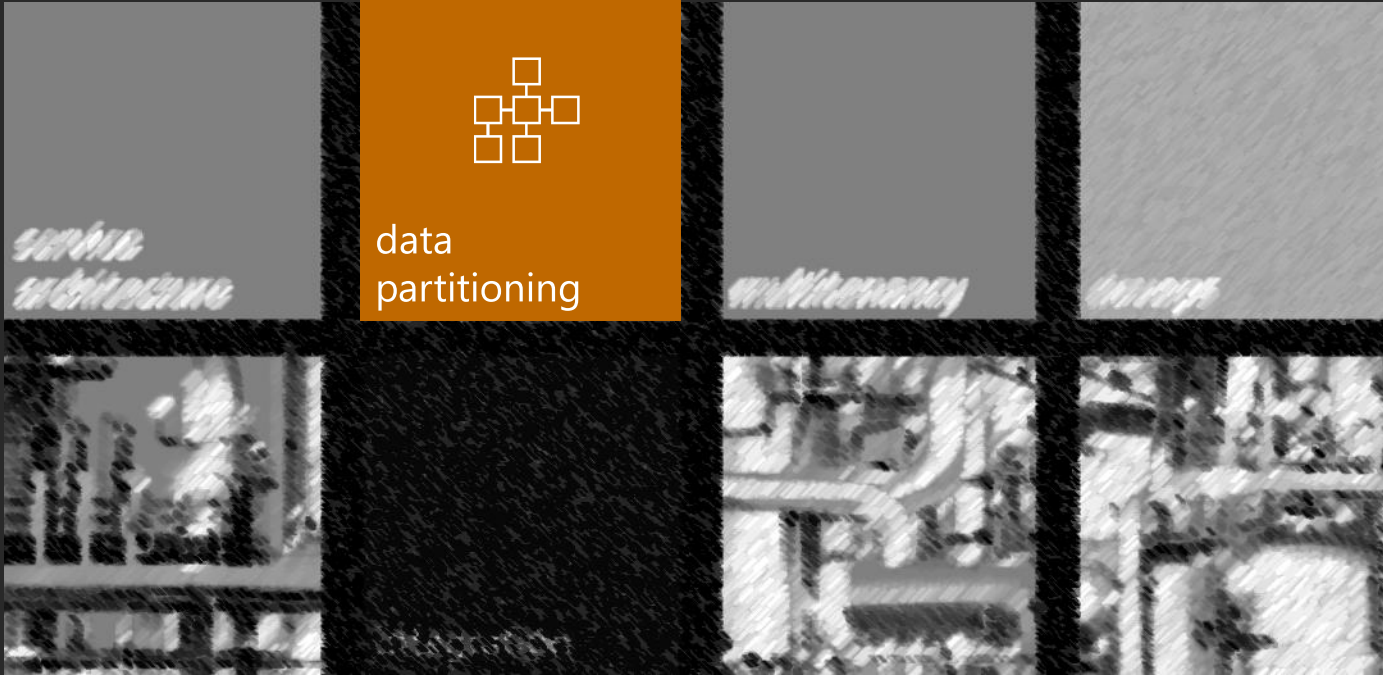
Data Layer

service architecture

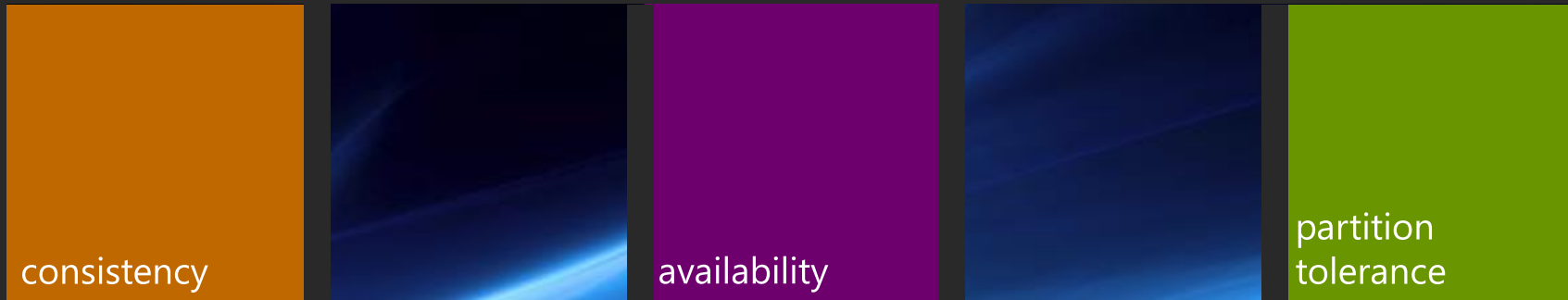


each instance contains all layers
inproc communication

instance per layer, communication through queues



cap theorem



horizontal partitioning

First Name	Last Name	Email	Thumbnail	Photo
David	Alexander	davida@contoso.com	3kb	3MB
Jared	Carlson	jaredc@contoso.com	3kb	3MB
Sue	Charles	suec@contoso.com	3kb	3MB
Simon	Mitchel	simonm@contoso.com	3kb	3MB
Richard	Zeng	richardz@contoso.com	3kb	3MB

The diagram illustrates horizontal partitioning of a table. The table is divided into four horizontal partitions, each represented by a different color. Each partition is mapped to a specific server (represented by a server icon) via a colored arrow pointing from the 'First Name' column of the partition to the server icon below it.

- Blue Partition:** Contains the row for David Alexander (davida@contoso.com). An arrow points from 'David' to the first server icon.
- Orange Partition:** Contains the rows for Jared Carlson (jaredc@contoso.com) and Sue Charles (suec@contoso.com). An arrow points from 'Jared' to the second server icon.
- Purple Partition:** Contains the row for Simon Mitchel (simonm@contoso.com). An arrow points from 'Simon' to the third server icon.
- Red Partition:** Contains the row for Richard Zeng (richardz@contoso.com). An arrow points from 'Richard' to the fourth server icon.

vertical partitioning

First Name	Last Name	Email	Thumbnail	Photo
David	Alexander	davida@contoso.com	3kb	3MB
Jared	Carlson	jaredc@contoso.com	3kb	3MB
Sue	Charles	suec@contoso.com	3kb	3MB
Simon	Mitchel	simonm@contoso.com	3kb	3MB
Richard	Zeng	richardz@contoso.com	3kb	3MB



SQL Azure



Tables



BLOBS

hybrid partitioning

First Name	Last Name	Email	Thumbnail	Photo
David	Alexander	davida@contoso.com	3kb	3MB
Jared	Carlson	jaredc@contoso.com	3kb	3MB
Sue	Charles	suec@contoso.com	3kb	3MB
Simon	Mitchel	simonm@contoso.com	3kb	3MB
Richard	Zeng	richardz@contoso.com	3kb	3MB

The diagram illustrates hybrid partitioning. The table is divided into two groups of rows. The first group (David, Jared, Sue) is highlighted with a blue border and has a blue arrow pointing to a server icon. The second group (Simon, Richard) is highlighted with an orange border and has an orange arrow pointing to a server icon. The third column (Thumbnail) is highlighted with a purple border and has a purple arrow pointing to a server icon. The fourth column (Photo) is highlighted with a red border and has a red arrow pointing to a server icon.

tables != rdbms

cross partition
queries are
resource
intensive

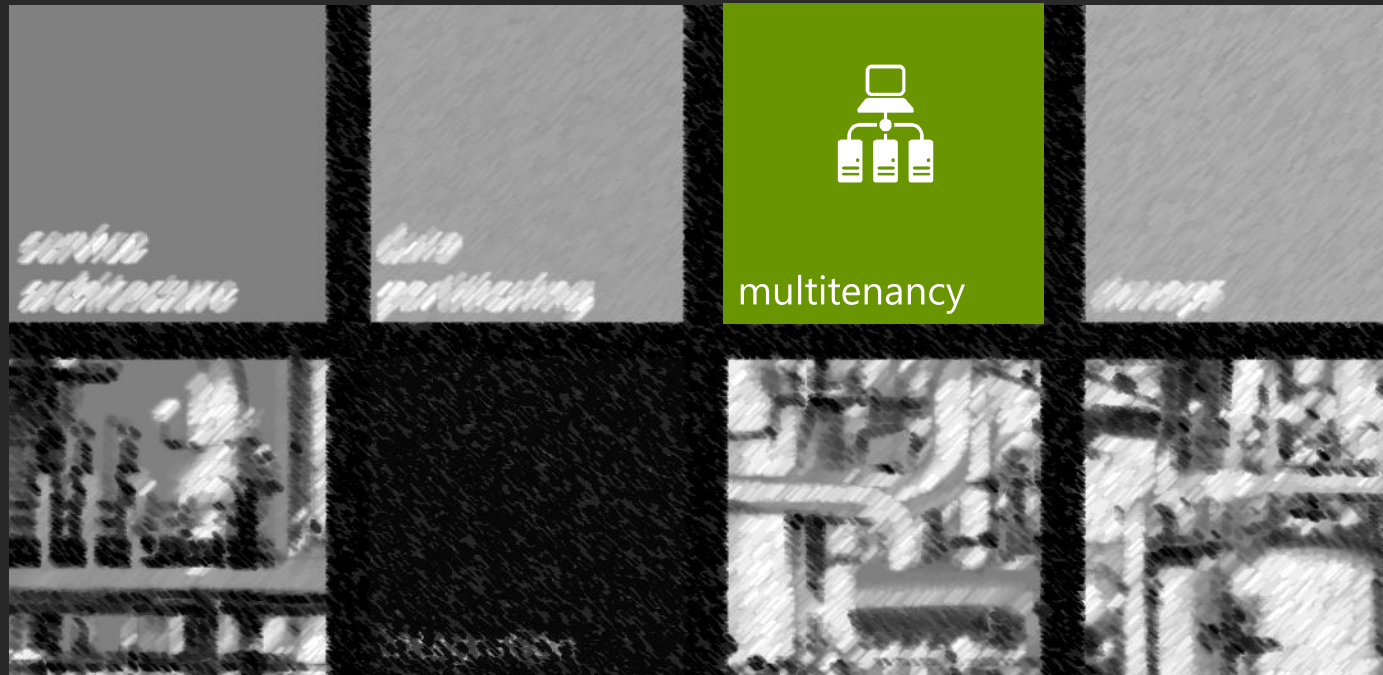


aggressive data
duplication can
save money
and boost
performance

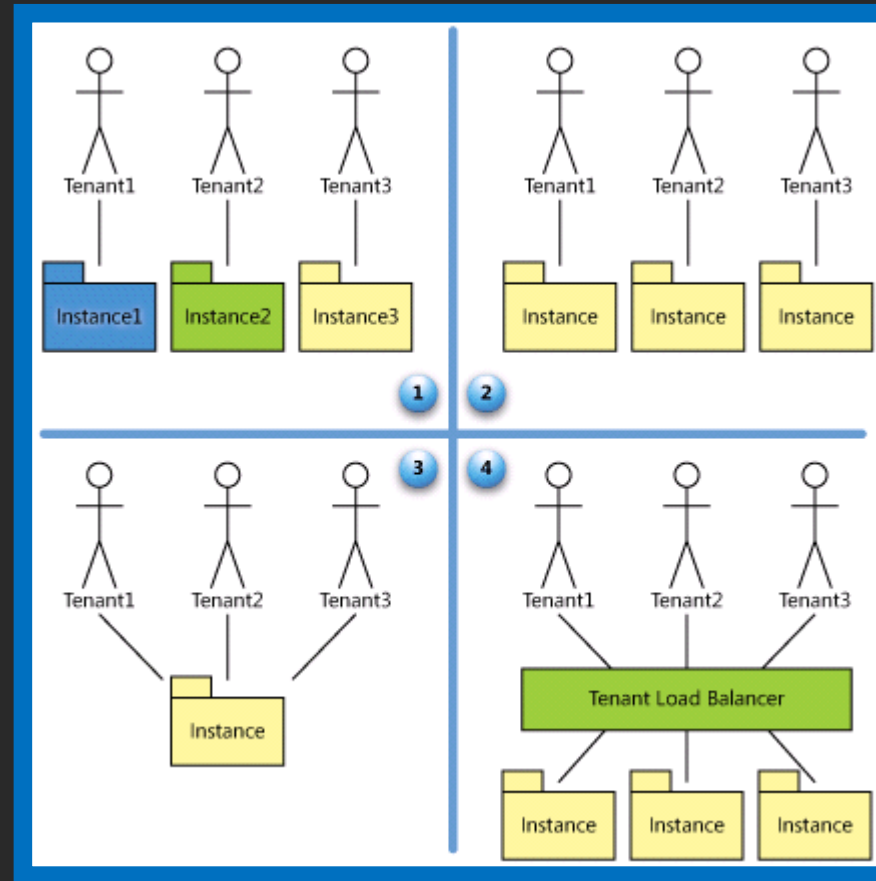
storage is
cheap



goal: To be able
to include
Partition Key in
all queries



multitenancy



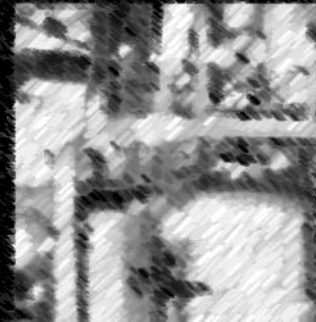
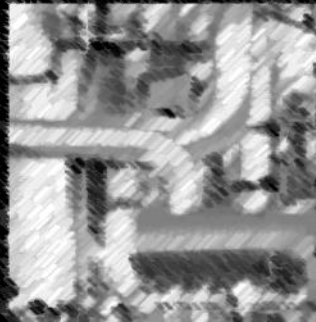
service
architecture

data
partitioning

multitenancy



cloud
migration



continues deployment

FEATURING

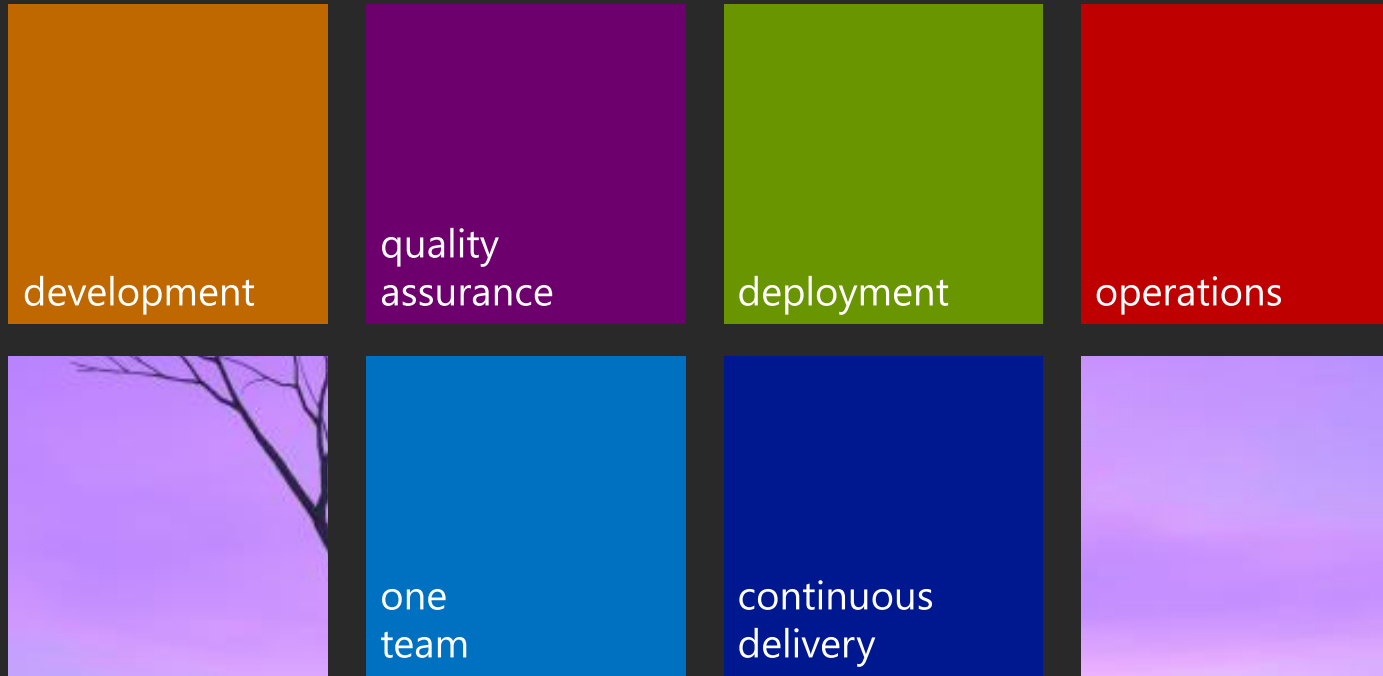


Flickr was last deployed 2 days ago, including 4 changes by 1 person.

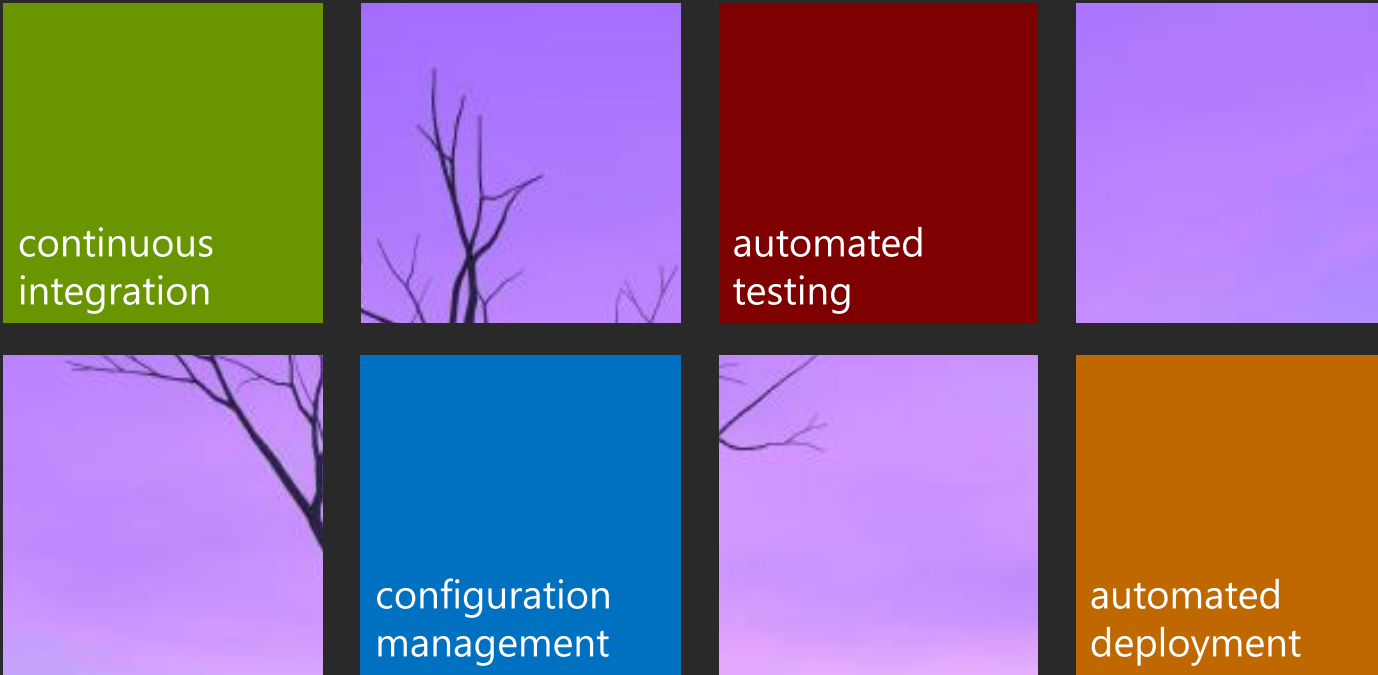
In the last week there were 77 deploys of 440 changes by 18 people.

<http://code.flickr.com/>

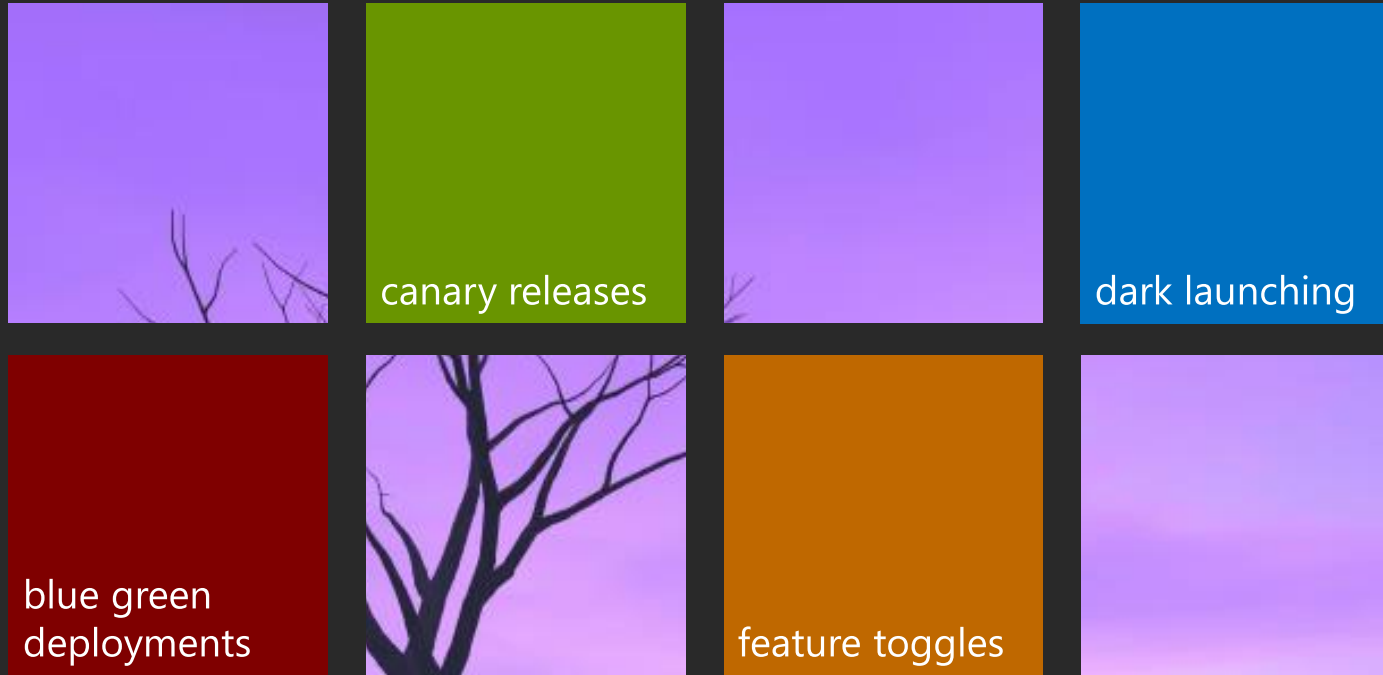
devops



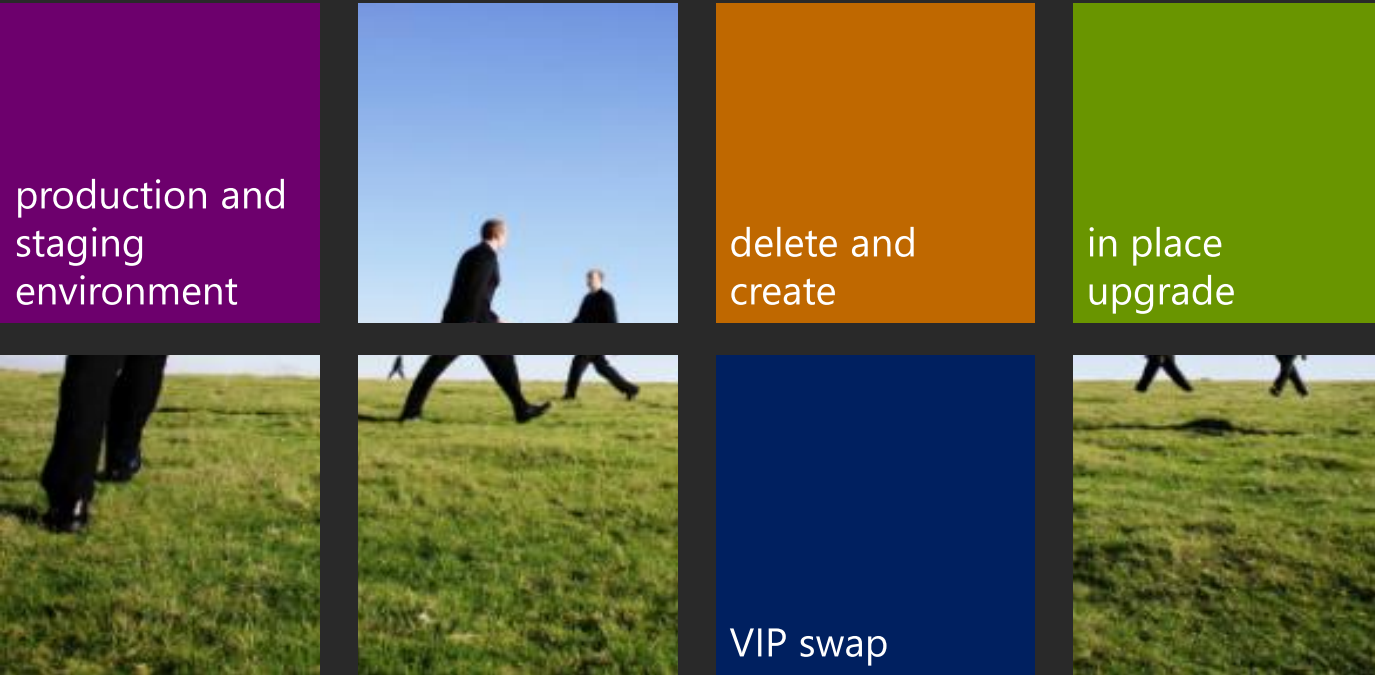
devops



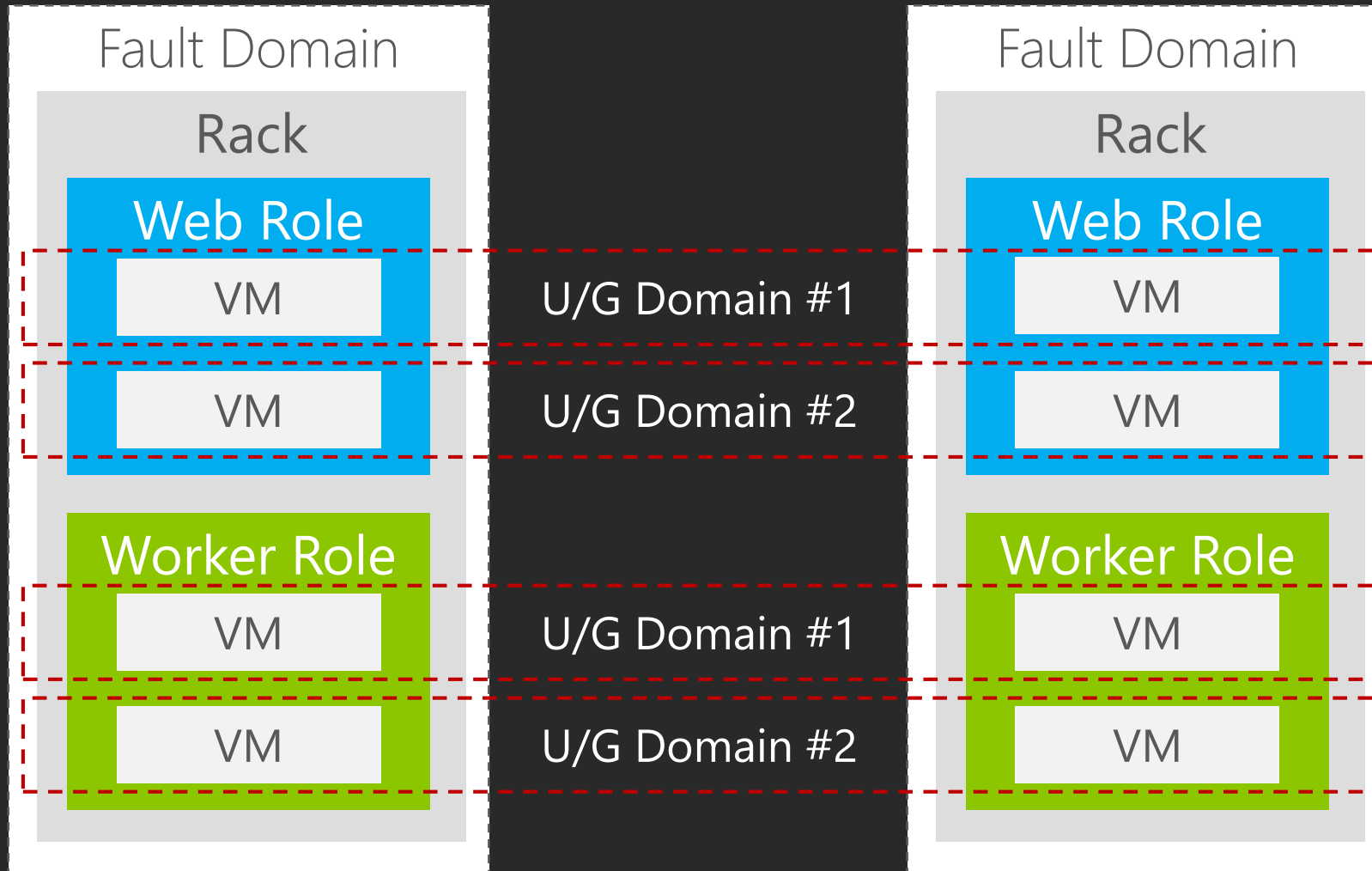
deployment/release strategies



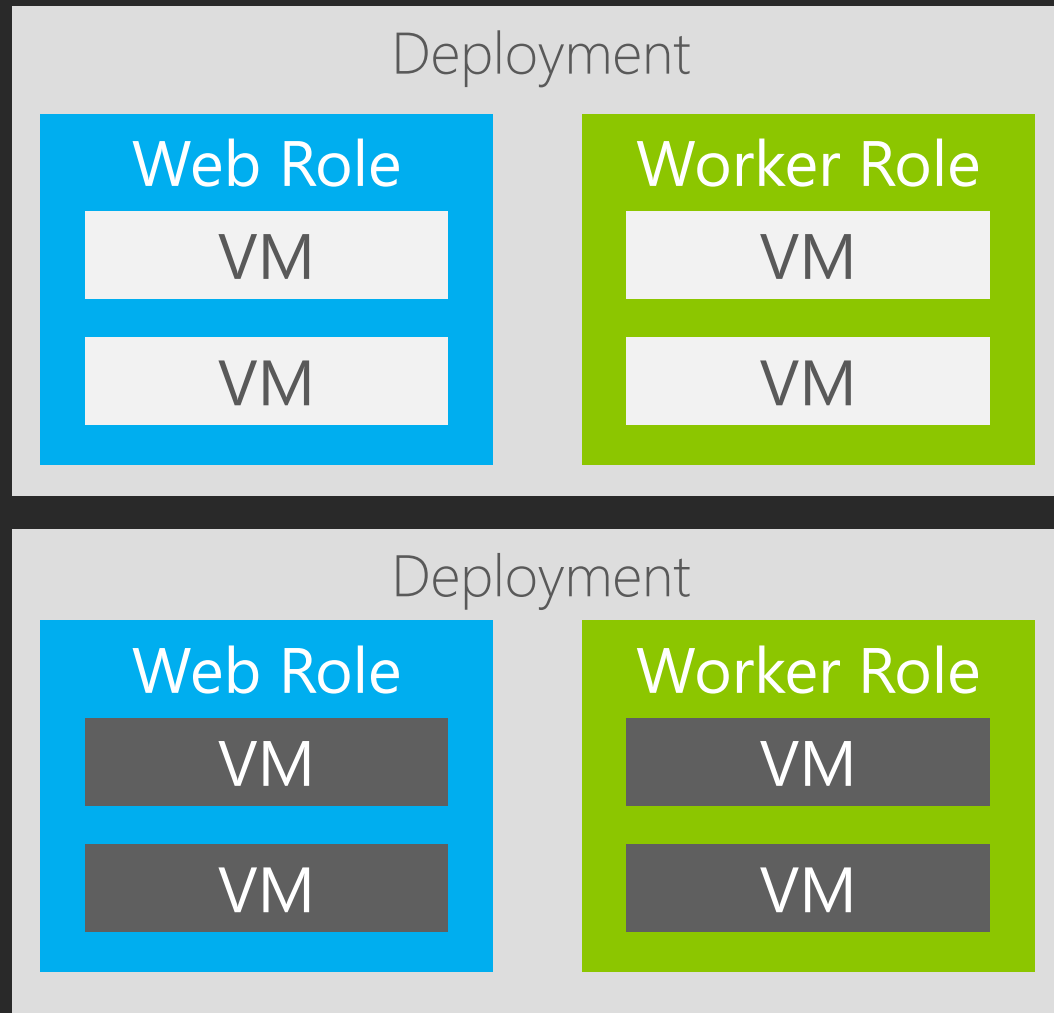
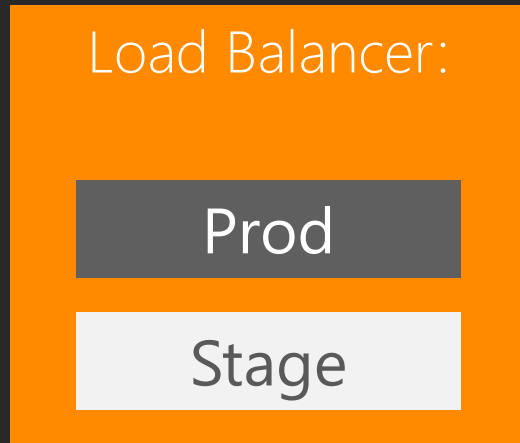
upgrades in Windows Azure



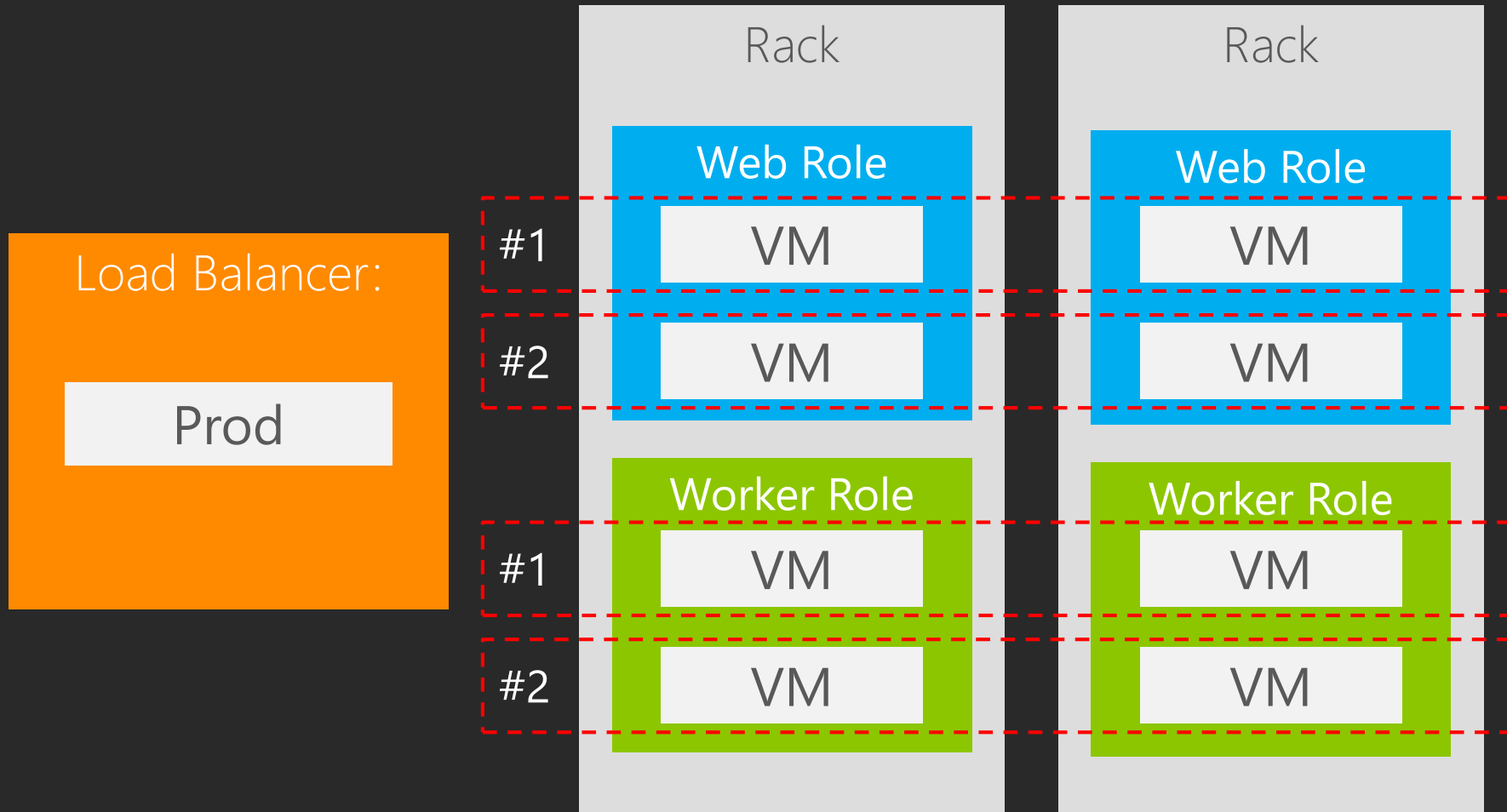
fault and upgrade domains



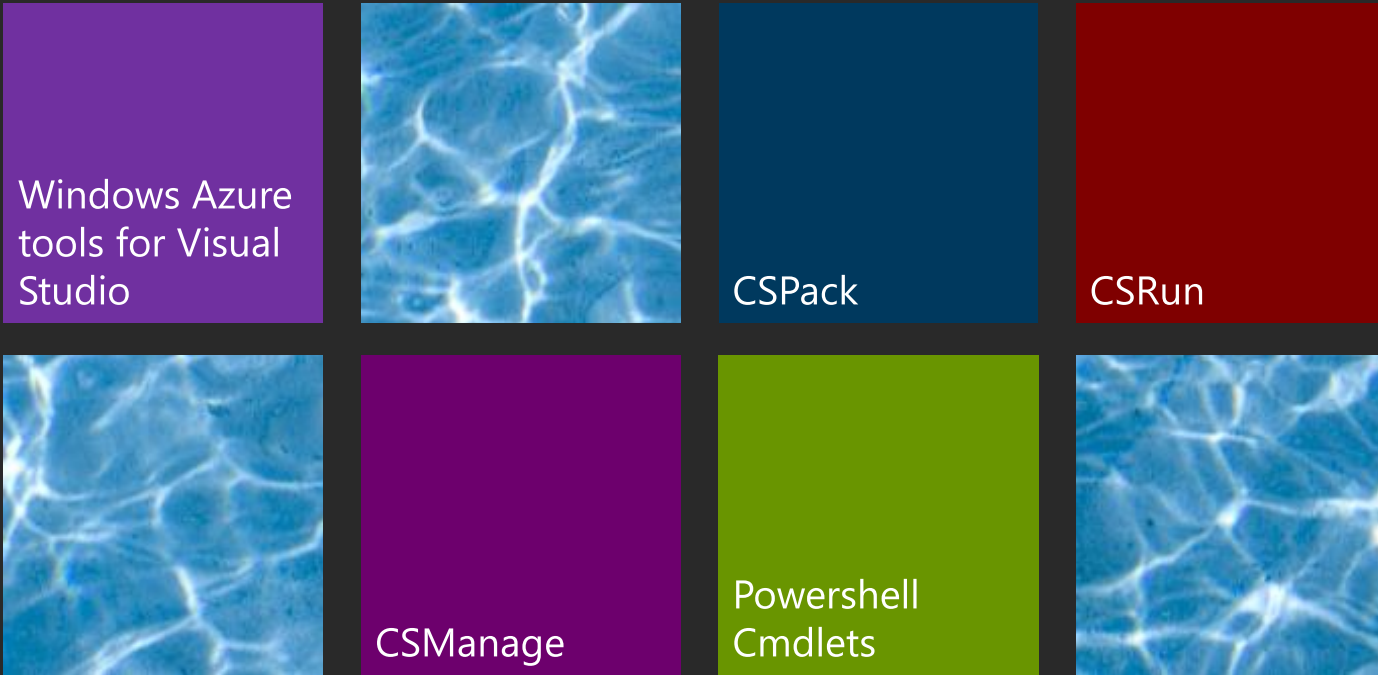
VIP swap

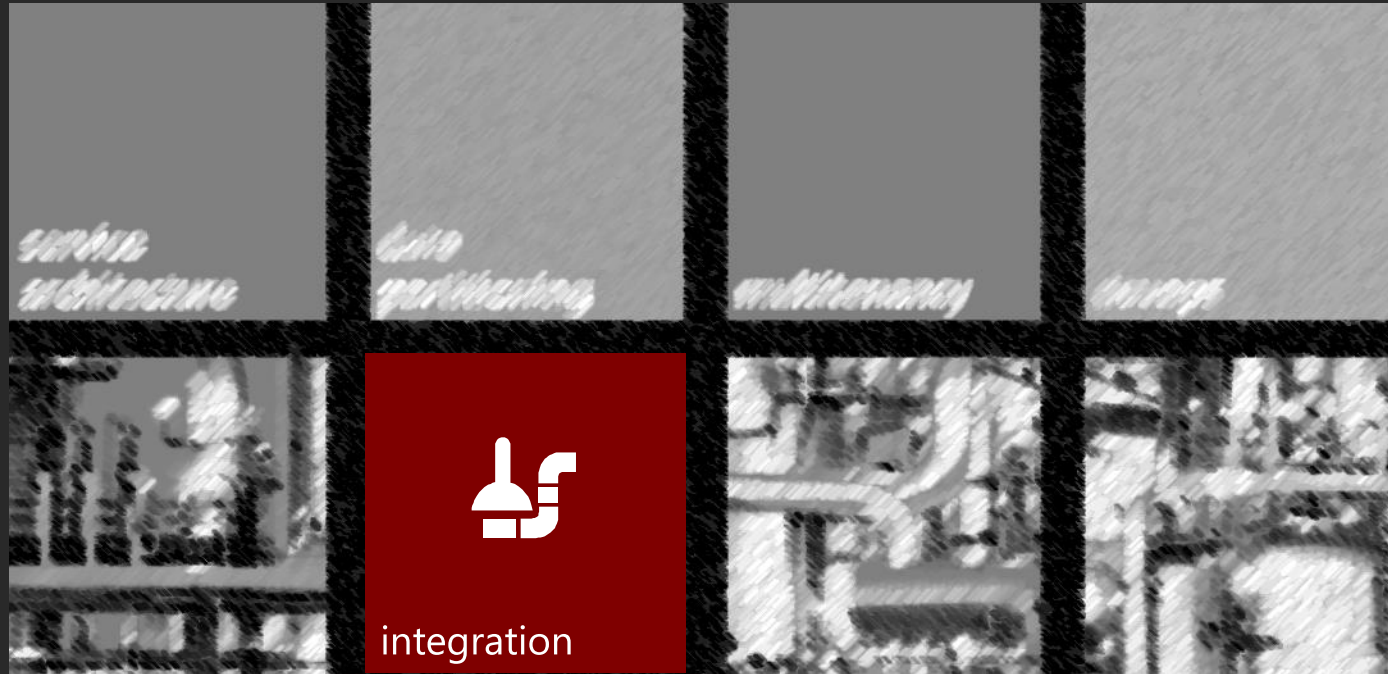


in place upgrade




Windows Azure deployment tools

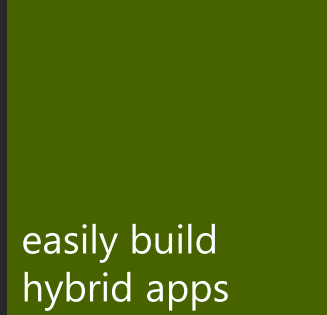




Windows Azure service bus



secure
messaging and
relay capabilities



easily build
hybrid apps



enable loosely
coupled
solutions





Demo:
Service Bus
Relay

conclusion



cloud style computing designs for scale out

scale out requires partitioning



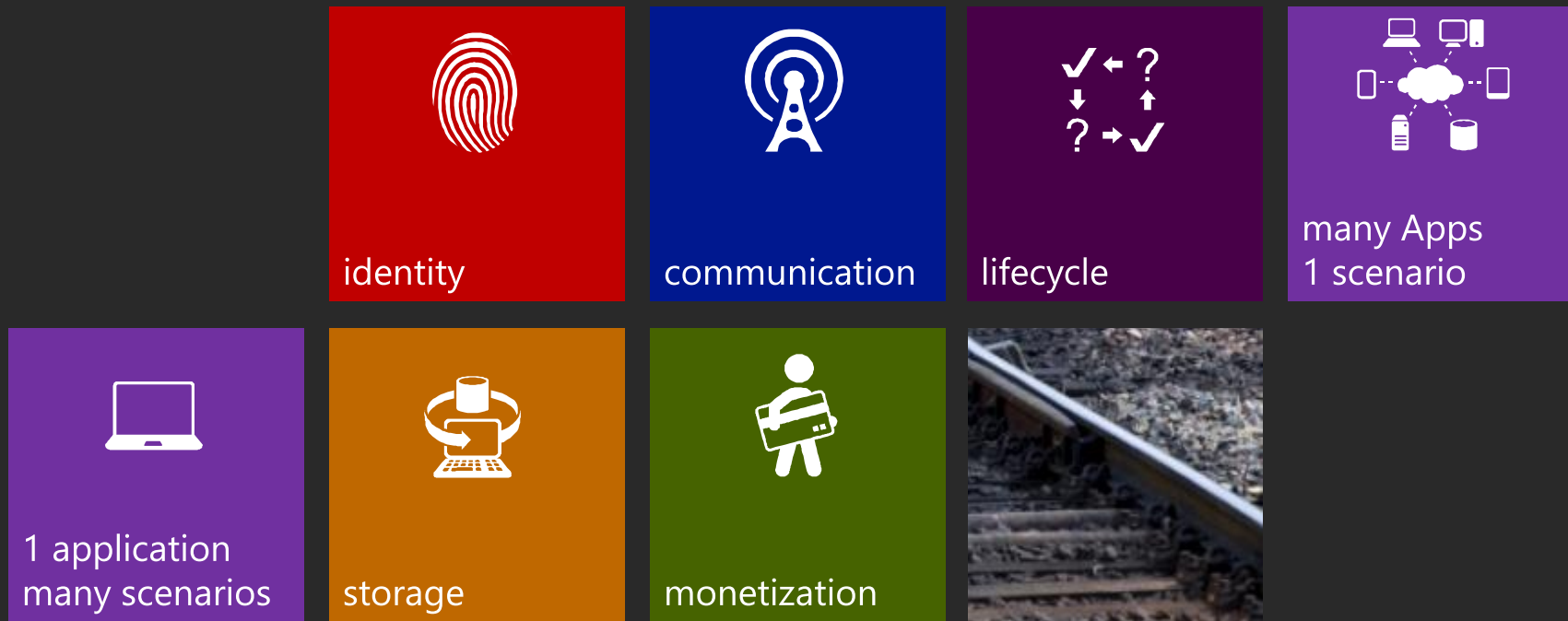
having redundant/duplicated data is ok

continuous delivery is a key asset



chapter V

from applications to apps



conclusion



from applications towards Apps

scenarios and tasks span multiple devices



cloud is a key enabler for connected devices

Windows Azure supports all devices

