Building serverless solutions that are resilient, scalable & cost effective

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Why Serverless?
What is the right **size** of **servers** for my business needs?
How can I increase **server** utilization?
How many **servers** do I need?
How can I **scale** my app?

How often should I **patch** my **servers**?
How often should I backup my **server**?
Which packages should be on my **server**?

How do I **deploy** new **code** to my **server**?
Which OS should I use?
Who monitors my App?
How do I architect my app to become Serverless?
Anything that needs to respond to events

Real-time stream processing
- Millions of devices feed into Stream Analytics
- Transform to structured data
- Store data in SQL DB

Timer-based processing
- Every 15 minutes
- Find and clean invalid data
- Clean table

App backends
- Photo taken and WebHook called
- Stores in blob storage
- Produces scaled images

Real-time bot messaging
- Message sent to Chatbot
- Cortana Analytics answers questions
- Chatbot sends response
<table>
<thead>
<tr>
<th>Type</th>
<th>Service</th>
<th>Trigger</th>
<th>Input</th>
<th>Output</th>
<th>Annotation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Schedule</td>
<td>Azure Functions</td>
<td>✓</td>
<td></td>
<td>✓</td>
<td>@TimerTrigger</td>
</tr>
<tr>
<td>HTTP</td>
<td>Azure Functions</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>@HttpTrigger, @HttpOutput</td>
</tr>
<tr>
<td>Blob Storage</td>
<td>Azure Storage</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>@BlobTrigger, @BlobInput, @BlobOutput</td>
</tr>
<tr>
<td>Queues</td>
<td>Azure Storage</td>
<td>✓</td>
<td></td>
<td>✓</td>
<td>@QueueTrigger, @QueueOutput</td>
</tr>
<tr>
<td>CosmosDB</td>
<td>Azure Database</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>@ComosDBInput, @CosmosOutput</td>
</tr>
</tbody>
</table>

More….
<table>
<thead>
<tr>
<th>Functions</th>
<th>Logic Apps</th>
<th>Event grid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consumption and provisioned options</td>
<td>Visual designer</td>
<td>Manage all events in one place</td>
</tr>
<tr>
<td>Local development and advanced DevOps with detailed monitoring</td>
<td>Switch statements and loops</td>
<td>Near real-time delivery</td>
</tr>
<tr>
<td>Bindings to first and third-party services</td>
<td>120+ connectors to SaaS and PaaS, with custom connector support</td>
<td>Broad coverage</td>
</tr>
<tr>
<td>Open source runtime</td>
<td>Resource handling workflow</td>
<td></td>
</tr>
</tbody>
</table>
1. **Events**: what happened
2. **Event Publishers**: where it took place
3. **Topics**: where publishers send events
4. **Event Subscriptions**: how you receive events
5. **Event Handlers**: the app or service reacting to the event
<table>
<thead>
<tr>
<th>Serverless apps</th>
<th>Ops automation</th>
<th>Third-party integration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trigger a function to run Cognitive API when a file</td>
<td>Use a function to run a compliance check on each newly created SQL database</td>
<td>Use custom “drive start” and “drive end” events to log vehicle performance metrics</td>
</tr>
<tr>
<td>is added to storage</td>
<td>Tag newly provisioned VMs with Azure Automation and add to metadata store</td>
<td></td>
</tr>
</tbody>
</table>

![Diagram](https://via.placeholder.com/150)
- All events to single endpoint
- Sender sets topic
- Subscribers are authenticated AAD (cross org support)
- Subscribers identity not required to be Azure
- Entire service can be white labeled
- Opportunities for revenue share
Rate today’s session

Cyberconflict: A new era of war, sabotage, and fear

9:55am-10:10am Wednesday, March 27, 2019
Location: Ballroom
Secondary topics: Security and Privacy

We’re living in a new era of constant sabotage, misinformation, and fear, in which everyone is a target, and you’re often the collateral damage in a growing conflict among states. From crippling infrastructure to sowing discord and doubt, cyber is now the weapon of choice for democracies, dictators, and terrorists.

David Sanger explains how the rise of cyberweapons has transformed geopolitics like nothing since the invention of the atomic bomb. Moving from the White House Situation Room to the dens of Chinese, Russian, North Korean, and Iranian hackers to the boardrooms of Silicon Valley, David reveals a world coming face-to-face with the perils of technological revolution—a conflict that the United States helped start when it began using cyberweapons against Iranian nuclear plants and North Korean missile launches. But now we find ourselves in a conflict we’re uncertain how to control, as our adversaries exploit vulnerabilities in our hyperconnected nation and we struggle to figure out how to deter these complex, short-of-war attacks.

David Sanger
The New York Times

David E. Sanger is the national security correspondent for the New York Times as well as a national security and political contributor for CNN and a frequent guest on CBS This Morning, Face the Nation, and many PBS shows.