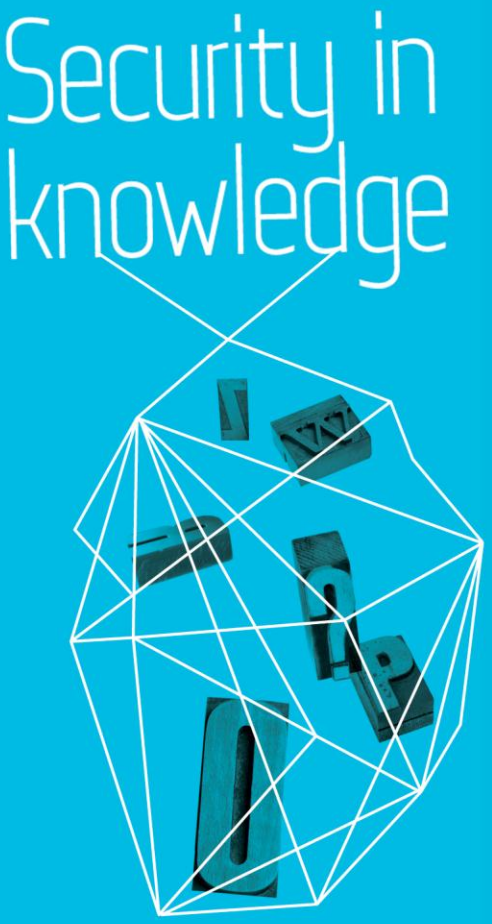
Stateless Architecture: for Security Innovation



Tim Mather
CISO and VP of Security & Compliance Markets, Splunk

Chenxi Wang, Ph.D.
Vice President, Principal Analyst, Forrester

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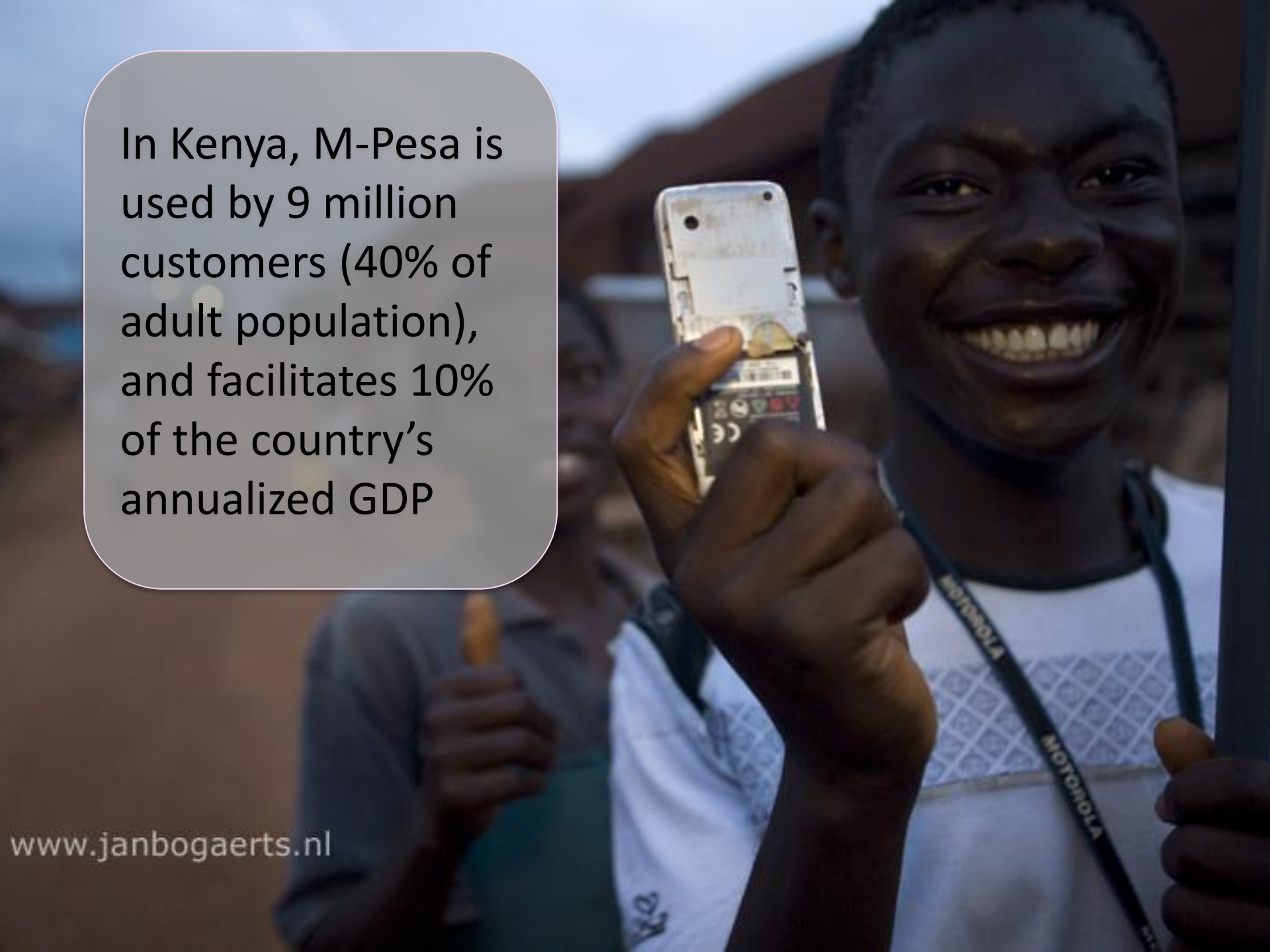
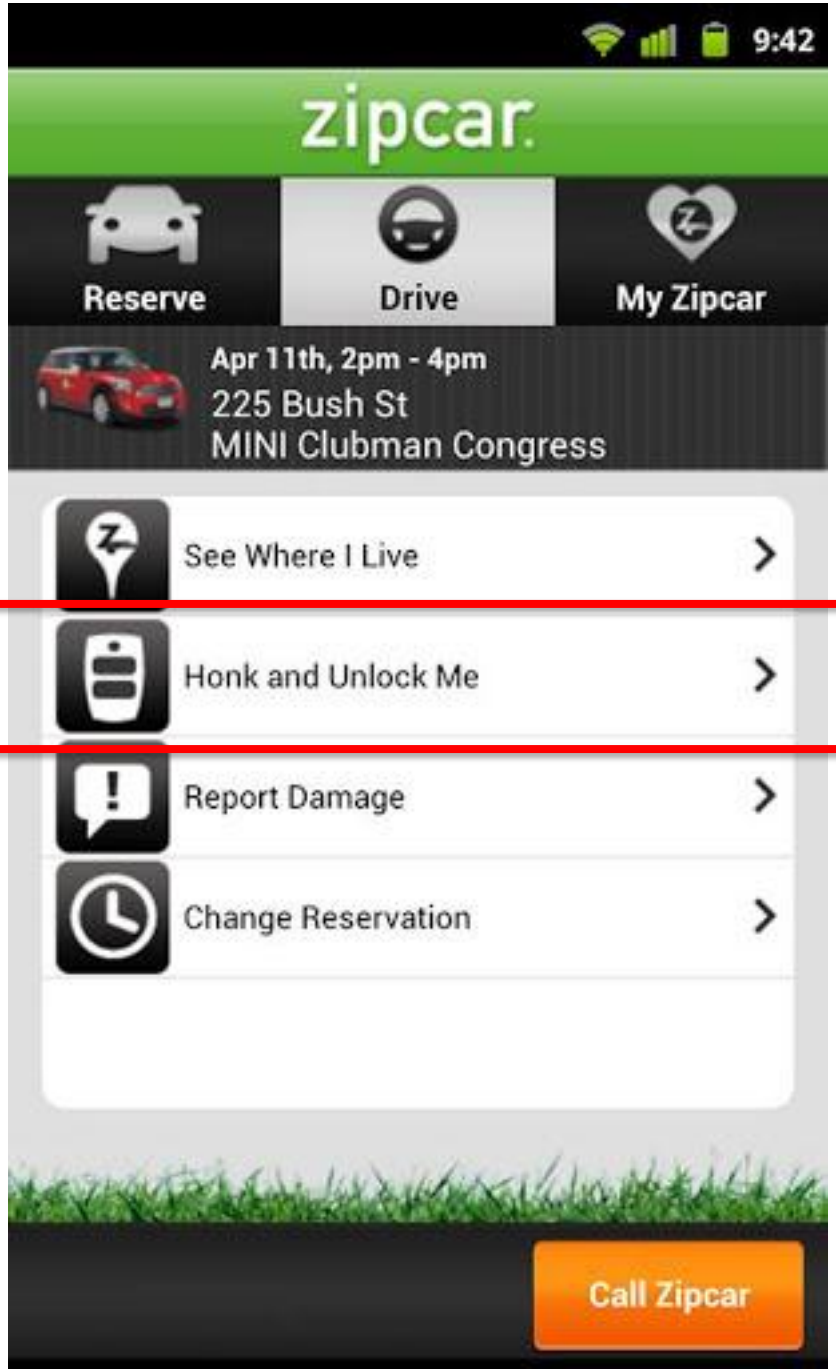
In South Africa, insurance companies can now underwrite policies for remote farmers using mobile phone photos of crops



In Kenya, M-Pesa is used by 9 million customers (40% of adult population), and facilitates 10% of the country's annualized GDP

zipcar®

In the United States, physical car keys are becoming obsolete – replaced by mobile phone applications

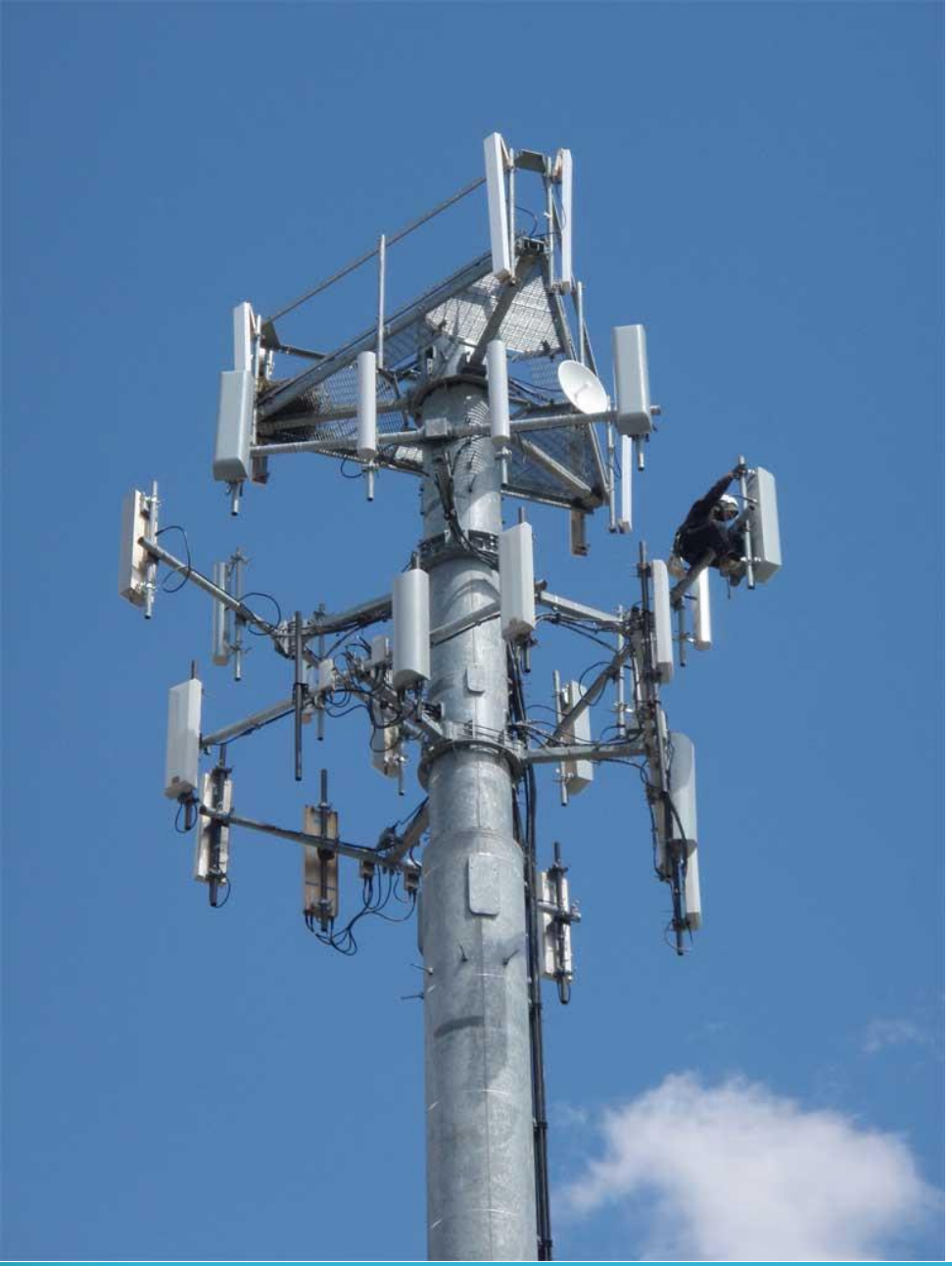


The Traditional Model is Broken

- Business model has changed
  - No longer “all employee” – now includes contractors, partners, vendors
  - No longer all “on premise” – now ‘everywhere’ and anywhere
- Data model has changed
  - No longer strictly structured (e.g., transactional) – now largely unstructured
- Platform model has changed
  - No longer strictly enterprise (e.g., mainframe, client / server) – now includes mobile, cloud, big data platforms

Trends Impacting the Model

- Increased connectivity requirements
  - Increased demand for constant communications, combined with increasing adoption and use of mobile
  - Pushing development of ad-hoc networks, cognitive radio
- Continued growth of BYOD
  - Access and use of data that must be protected across:
    - Locations, legal entities, and personnel
    - Platforms and networks
- All of this is driving a stateless architecture



‘Traditional’ cell towers give way to femtocells

Feature phones give way to smart phones

Resulting in

- Ongoing failures of traditional “state-dependent” data protection architectures
  - Dissolution of “known” endpoints
  - Failure of “behind-the-firewall” trust model
  - Network-dependent measures simply not sufficient
- Forcing a transition from network- and host-level protection to data-level protection models
  - ‘Perimeter’ is now on the data-level itself

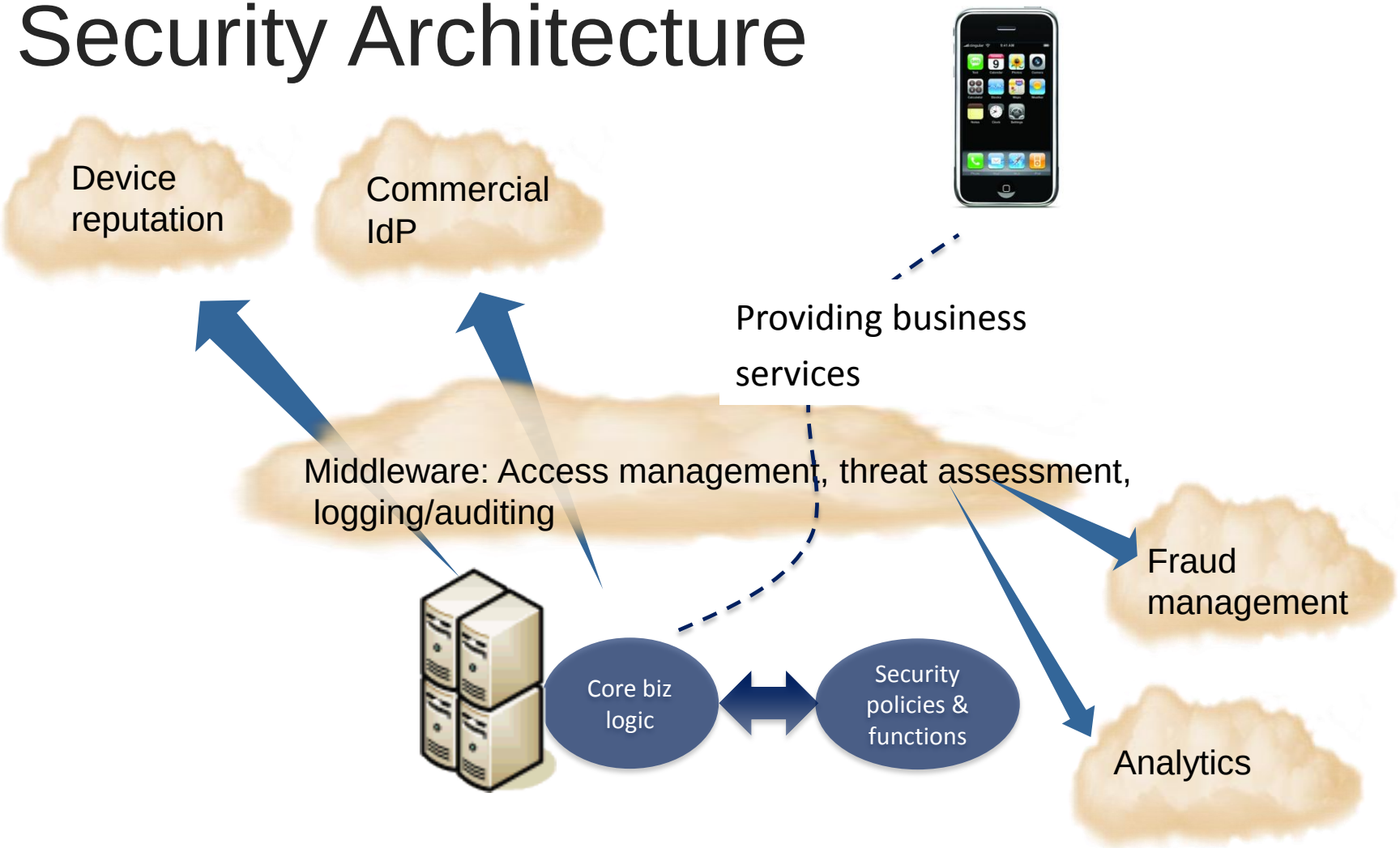
What it Means to have Stateless Security

- Controls are decoupled from the infrastructure
  - Data protection “travels” with the data
  - Independent of an application, network or device
- Trust is dynamic, on-demand
  - Trust is NEVER assumed
  - Trust is ALWAYS assessed at the point of access, dynamically
- Leverage on ecosystem capabilities by default
  - Rather than built in house

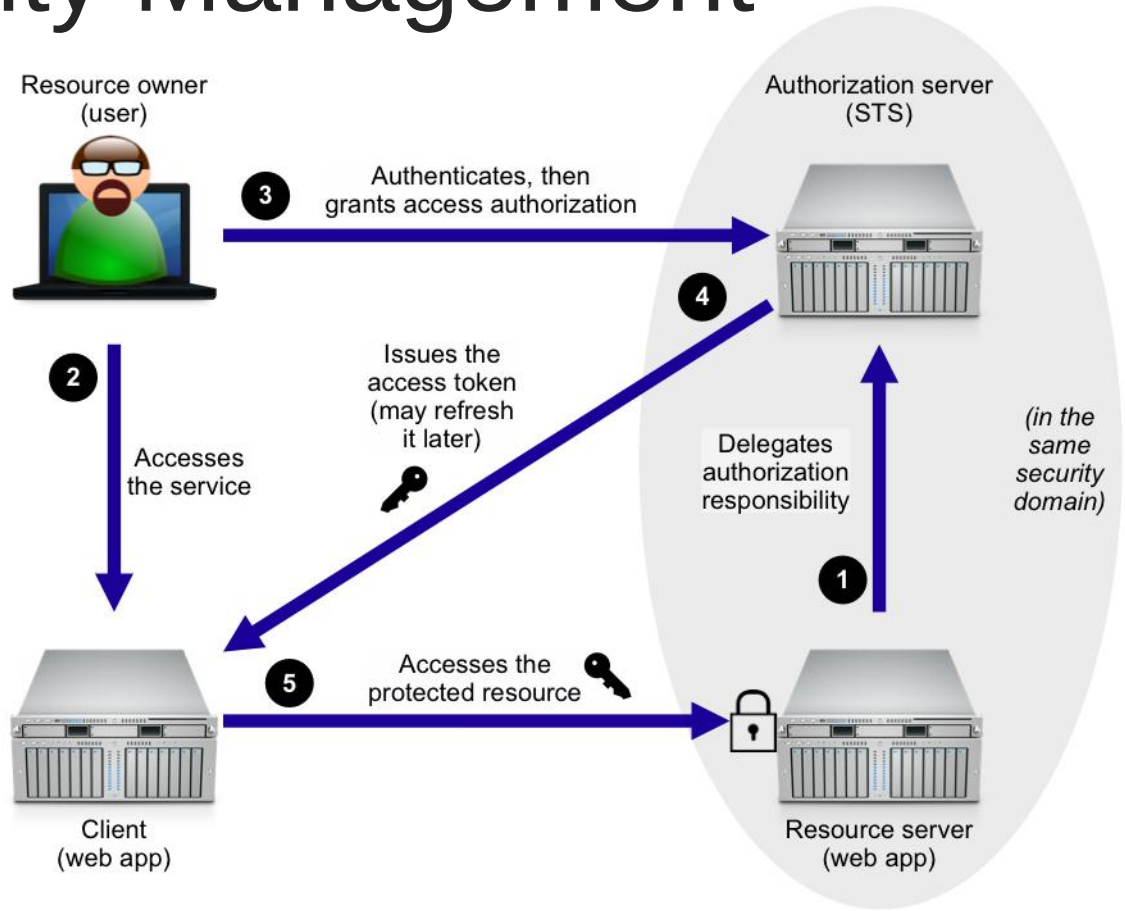
Four Steps of Building Stateless Architecture

- Leverage ecosystem capabilities
  - Cloud services and cloud APIs
  - Mobile APIs & libraries
  - Security function as a service
- Build a middleware to extend your enterprise applications
- Exercise real-time threat and risk assessment
- Build protection into application, closer to data

An Example of Stateless Security Architecture



An Example of Stateless Identity Management

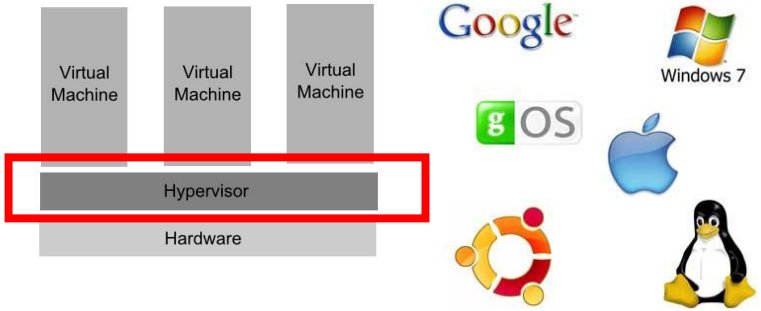


An Example of Stateless Security Control

Policy bits = high water mark*

2724 **Ak8W Bn3M** 2838 **Encrypted string**

0012 3456 7890 0000 **Original Data**



* The embedded Format-preserving encryption example came from Voltage Security

What it means

Security controls are enforced – without you having to own the full stack yourself

Security ecosystem delivers value far beyond traditional behind-the-firewall controls – powerful, contextual, immediate

More agile and rapid protection – infrastructure can change without rebuilding protection

Key Benefits

- Agile, rapid and efficient protection
  - Data is protected regardless where they are
- Simple, modular and portable
  - Infrastructure can change without rebuilding protection
- Reduce the trusted computing base (TCB)
  - The “holy grail” of security

Thank you!