Collaborative Computing on the Cloud

Google Docs for Semiconductor Design?

Collaboration Today

Vendor/Contractor

DMZ

Private Data Center

Maybe some virtualization Automatic Provisioning and Scaling less likely
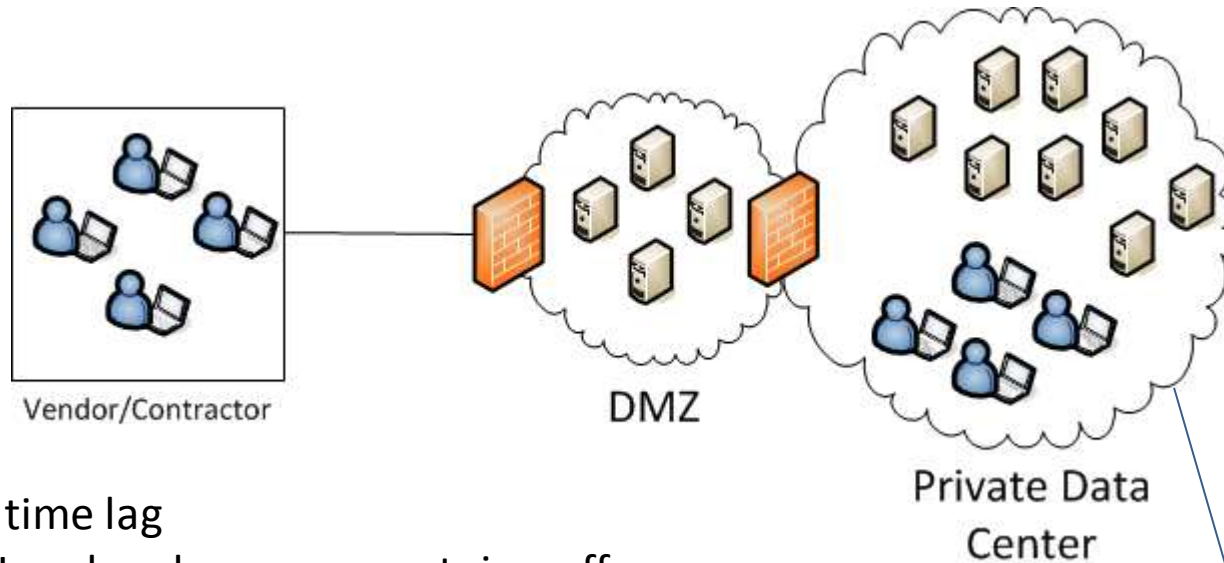
- Long time lag
  - Legal and management sign-off
  - IT configuration
  - Software installation
- High overhead
  - License management
  - Access control
  - IT maintenance
  - Version synchronization
- No scalability
  - Geographic
  - Compute, network, and storage

Small Scale Scenario: Private Cloud

Compute Resources

Human Resources

PM

DMZ

Platform & Infrastructure Architecture

Platform IT

Platform Architecture

Design Engineer

Tool Installation

Infrastructure IT

Long setup
High IT Overhead
Limited Scalability

Business Scale Scenario: Lots of FTP

Compute Resources

Human Resources

Sub-system Design

Processor IP

Sub-system Design

Peripheral IP

Manufacturing

Tool Support

Verification

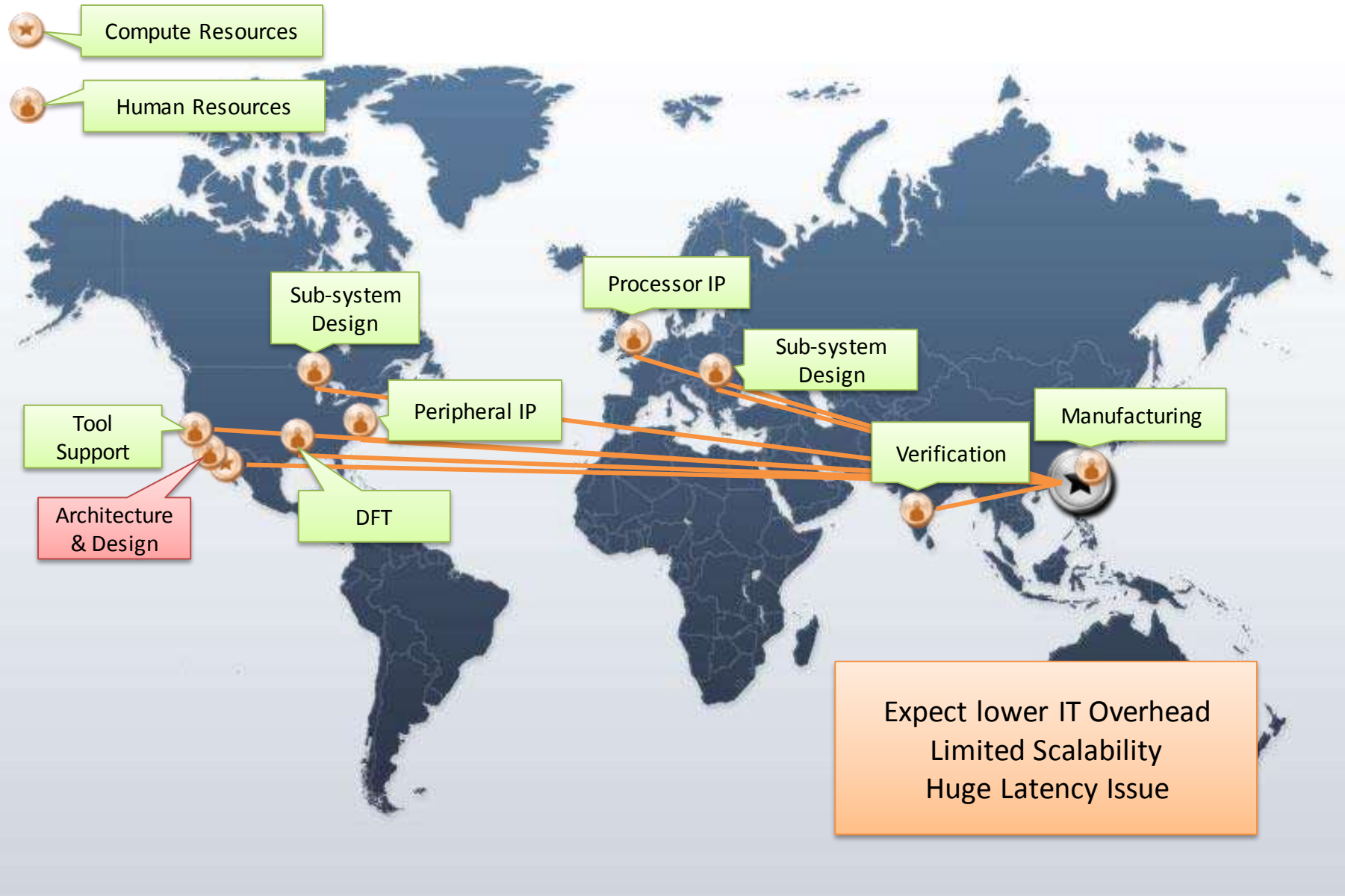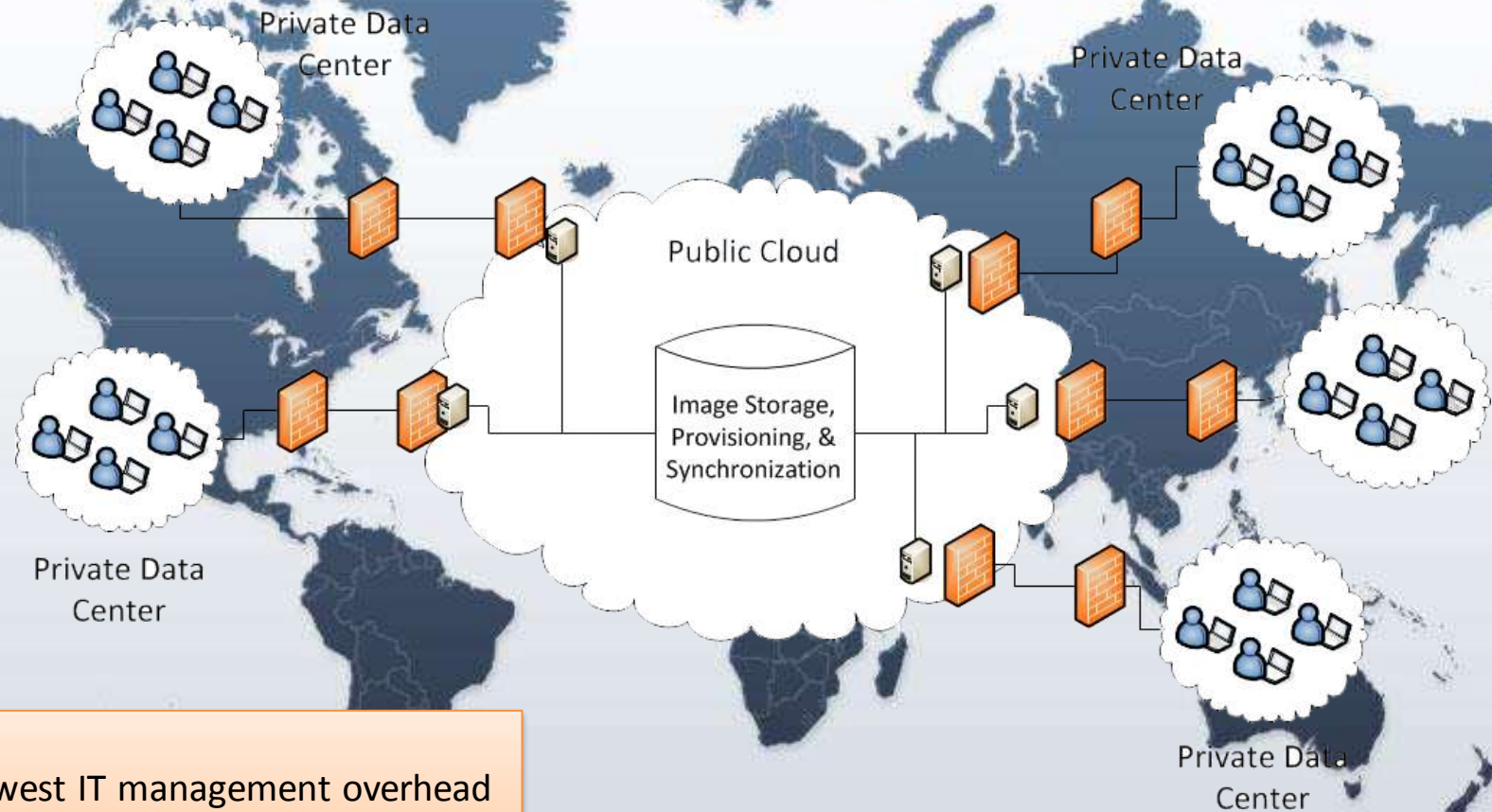Architecture & Design

DFT
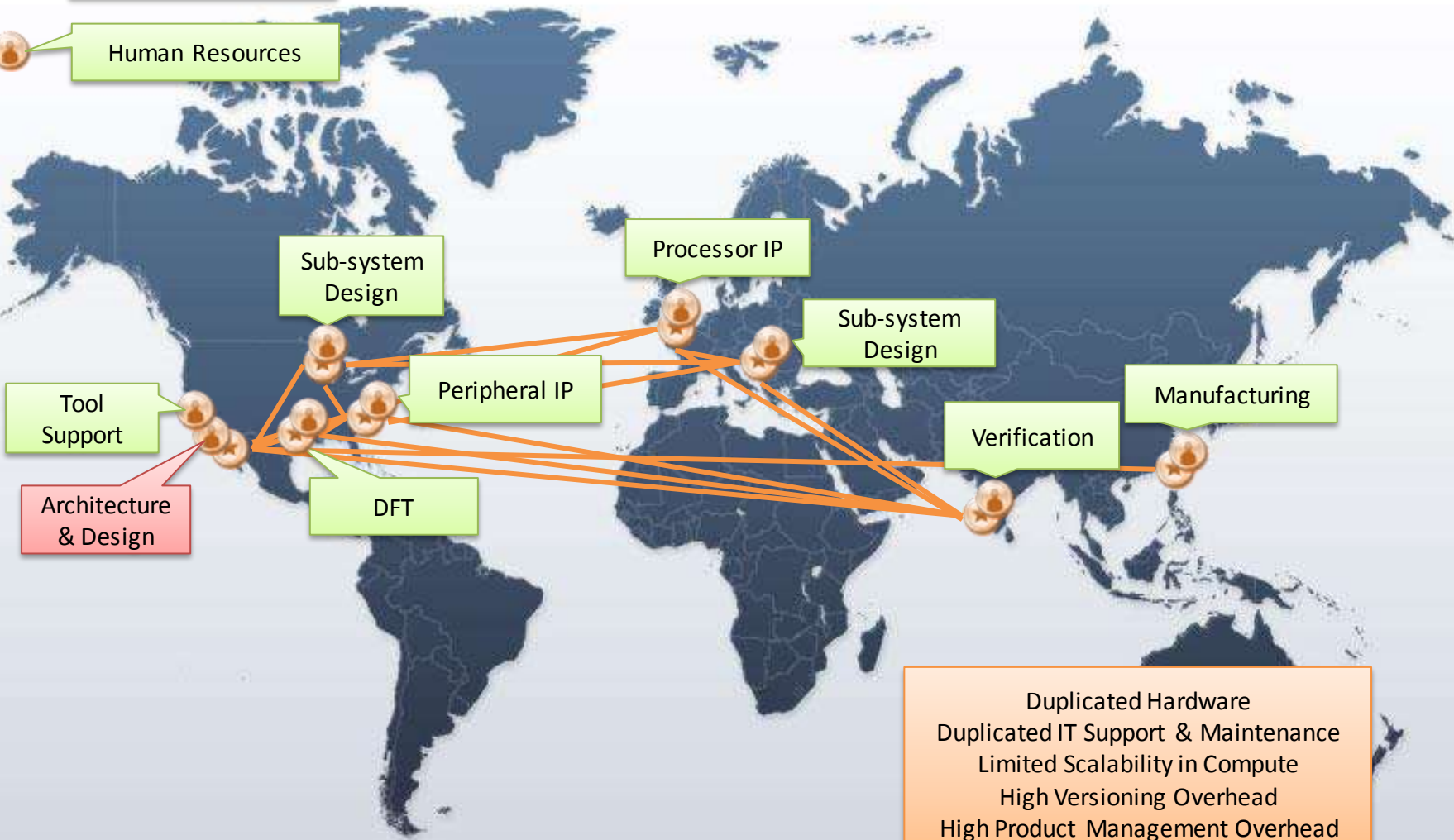
Duplicated Hardware
Duplicated IT Support & Maintenance
Limited Scalability in Compute
High Versioning Overhead
High Product Management Overhead

Private Compute Centralization


Compute Resources

Human Resources

Sub-system Design

Processor IP

Sub-system Design

Tool Support

Peripheral IP

Manufacturing

Architecture & Design

DFT

Verification

Expect lower IT Overhead
Limited Scalability
Huge Latency Issue

Federated Cloud

Private Data Center

Private Data Center

Public Cloud

Image Storage, Provisioning, & Synchronization

Private Data Center

Private Data Center

Private Data Center

Lowest IT management overhead
Maximum scalability
Managed Latency

Why is EDA stuck in 1995?
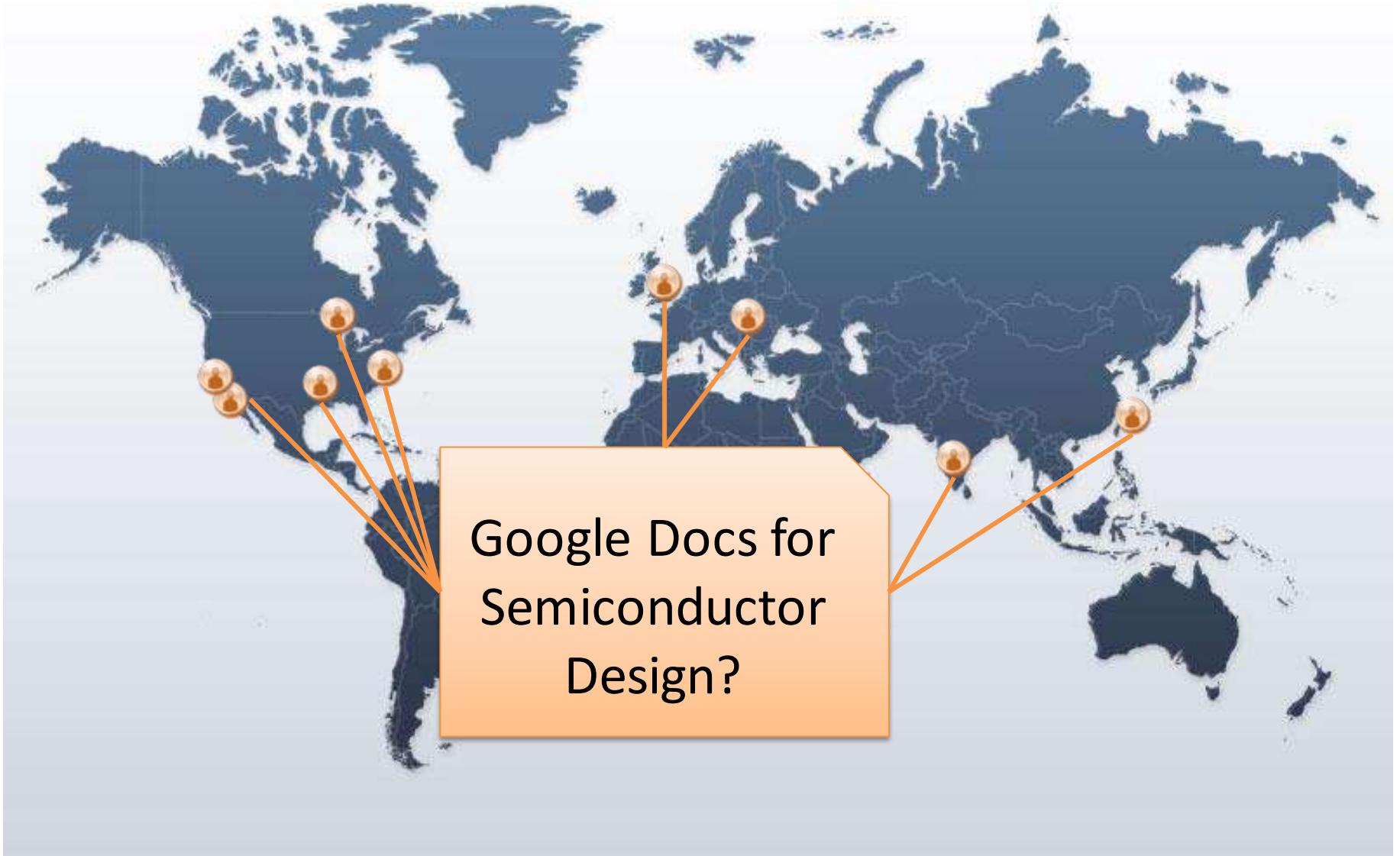
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Consumerization of the Enterprise

- Self Serve Enterprise
- Easy to use
- Instant Gratification
- Modern Design (UX)
- Real-time Interaction and Engagement
- Social

Productivity   Efficiency   Satisfaction