



Ensuring Smart Grid Longevity

FERC-NARUC Smart Grid Collaborative

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Overview

Introduction

Bandwidth & Latency

Firmware upgradeability

Security

Network-first approach

Optimize performance. Ensure security. Maximize value.

Silver Spring Networks

The leading provider of Smart Grid platforms,
based on cost-effective, high-performance,
open-standard Internet Protocol networking

Founded in 2002

Based in Redwood City, CA

Backed by Foundation Capital, Kleiner Perkins



Deployments Worldwide

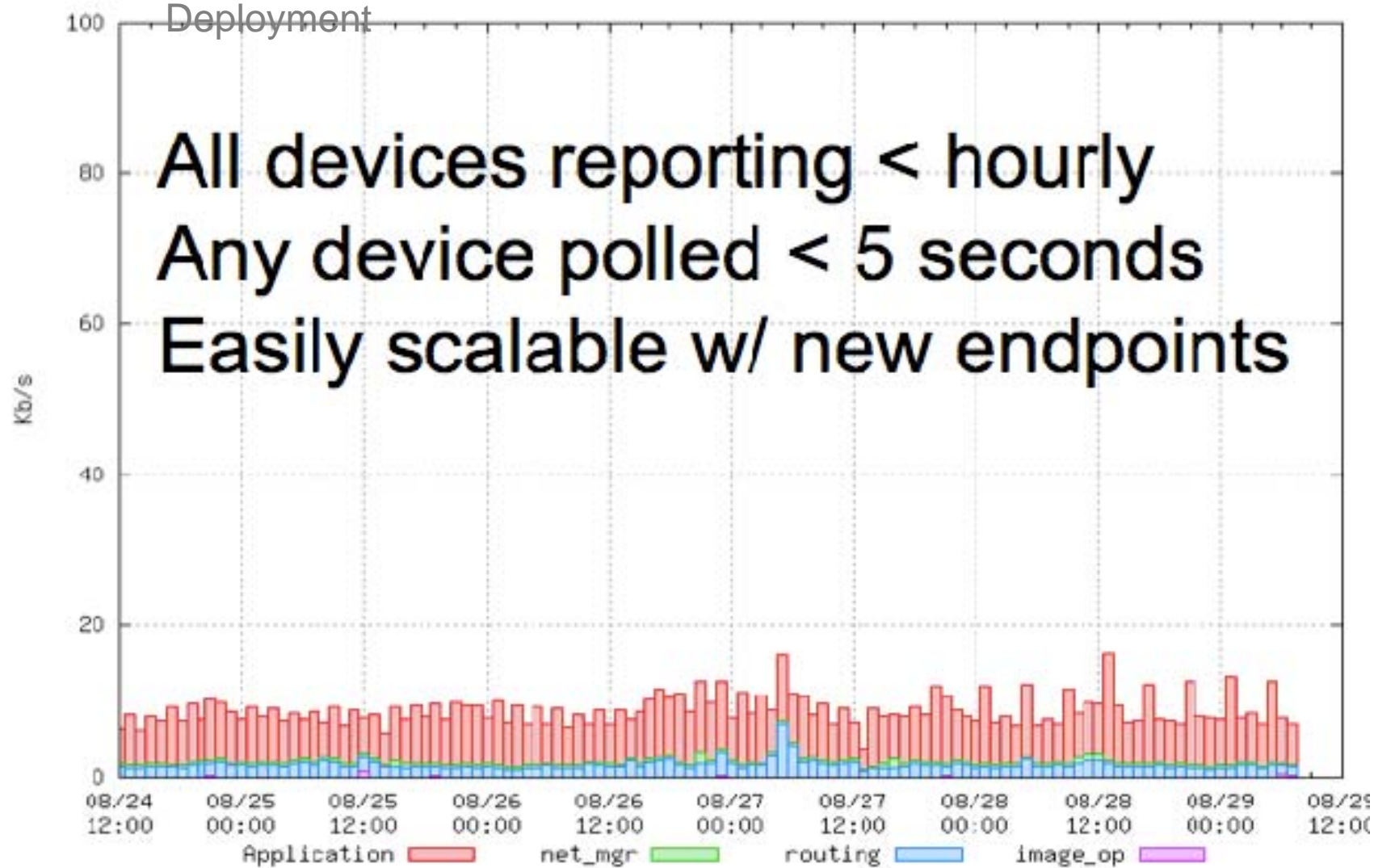


Our utility partners:

- Include IOUs, Munis, Co-ops
- Serve 20% of all US customers
- Reach 400,000 square miles
- Deliver 700 million MWh annually

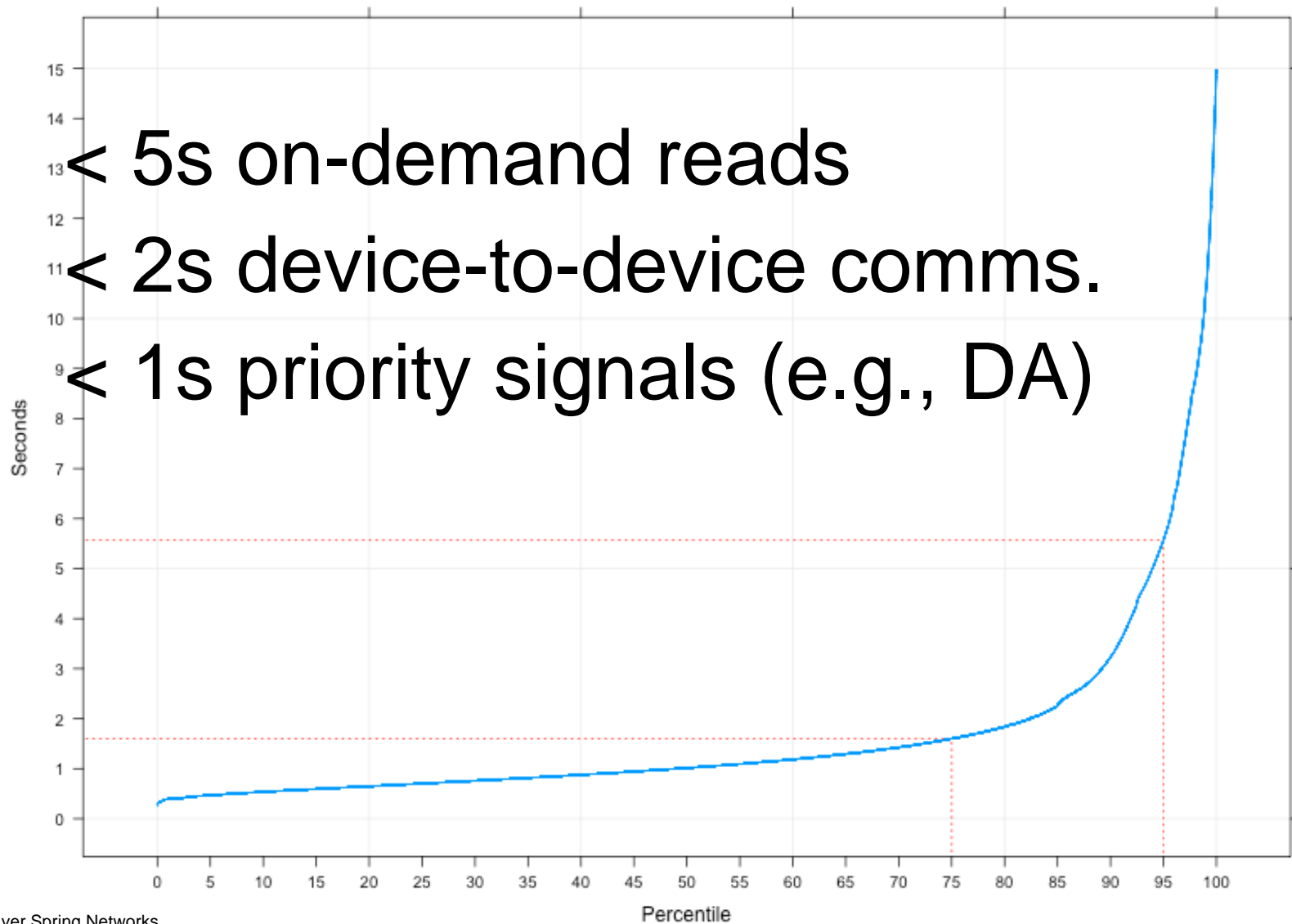
Bandwidth Recommendations

Network Capacity Utilization for Actual 100k Endpoint Deployment



Latency Recommendations

Roundtrip Communications for Actual 100k Endpoint Deployment



Firmware Upgradeability

Endpoint Memory

- At least 5X current requirements
- Recommendation: 4MB RAM, 8 MB Flash Storage

Firmware Integrity

- Robust encryption & signing of firmware code

Upgrade Speed

- Less than one day to upgrade 10m+ endpoints

Powerful Endpoints + High-Performance Network = Upgradeability

Security

Open standards = robust and secure

Internet Protocol = proven security foundation

Threat model = 20+ years

Network security > endpoint security

Role-based authorizations are critical

Cost of Protection < Value of Data < Cost of Attack

Network-First Approach to Smart Grid

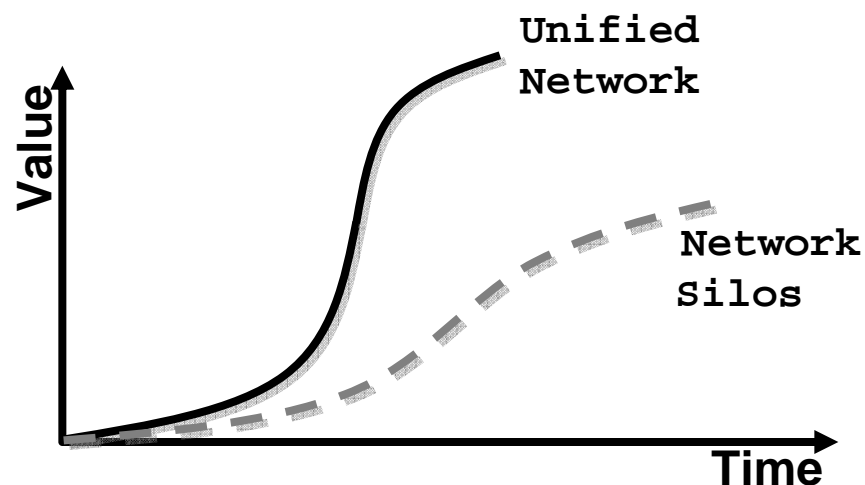
Take the “i” out of AMI

Develop network minimum function requirements

Insist on open networking standards

Build unified networks, avoid network silos

- Accelerate deployment
- Reduce costs, complexity
- Encourage innovation



Optimize performance. Ensure security. Maximize value.



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