

# A virtualized and monitored NDN infrastructure featuring a NDN/HTTP gateway



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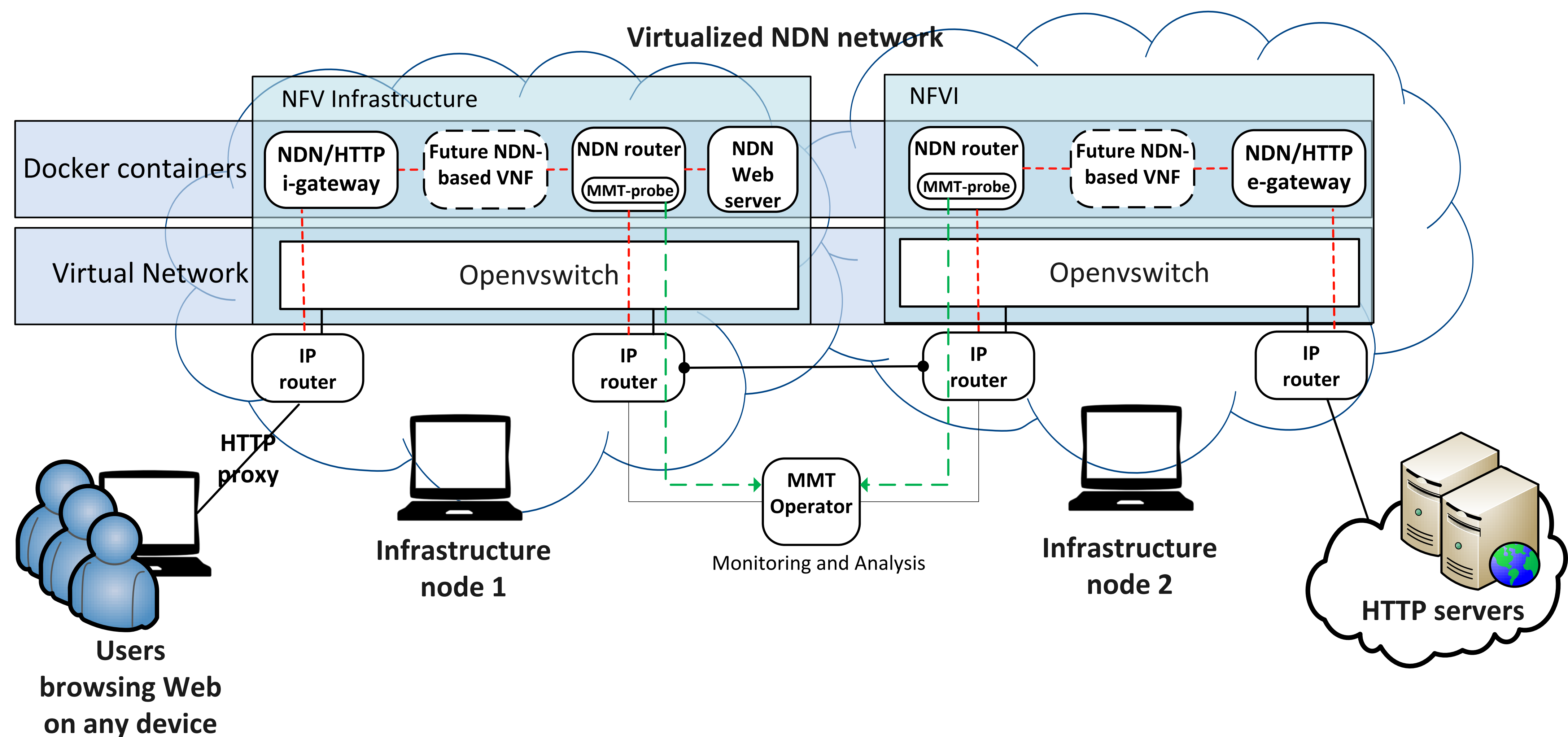
## Context

- ▶ Huge **costs** to deploy NDN, uncertain ROI;
- ▶ Need of **flexibility** and **security** in production networks;
- ▶ Crossing **NDN islands** can be sufficient to benefit from some of its properties;
- ▶ Need to **interconnect NDN** with existing content diffusion protocols.

## Objectives

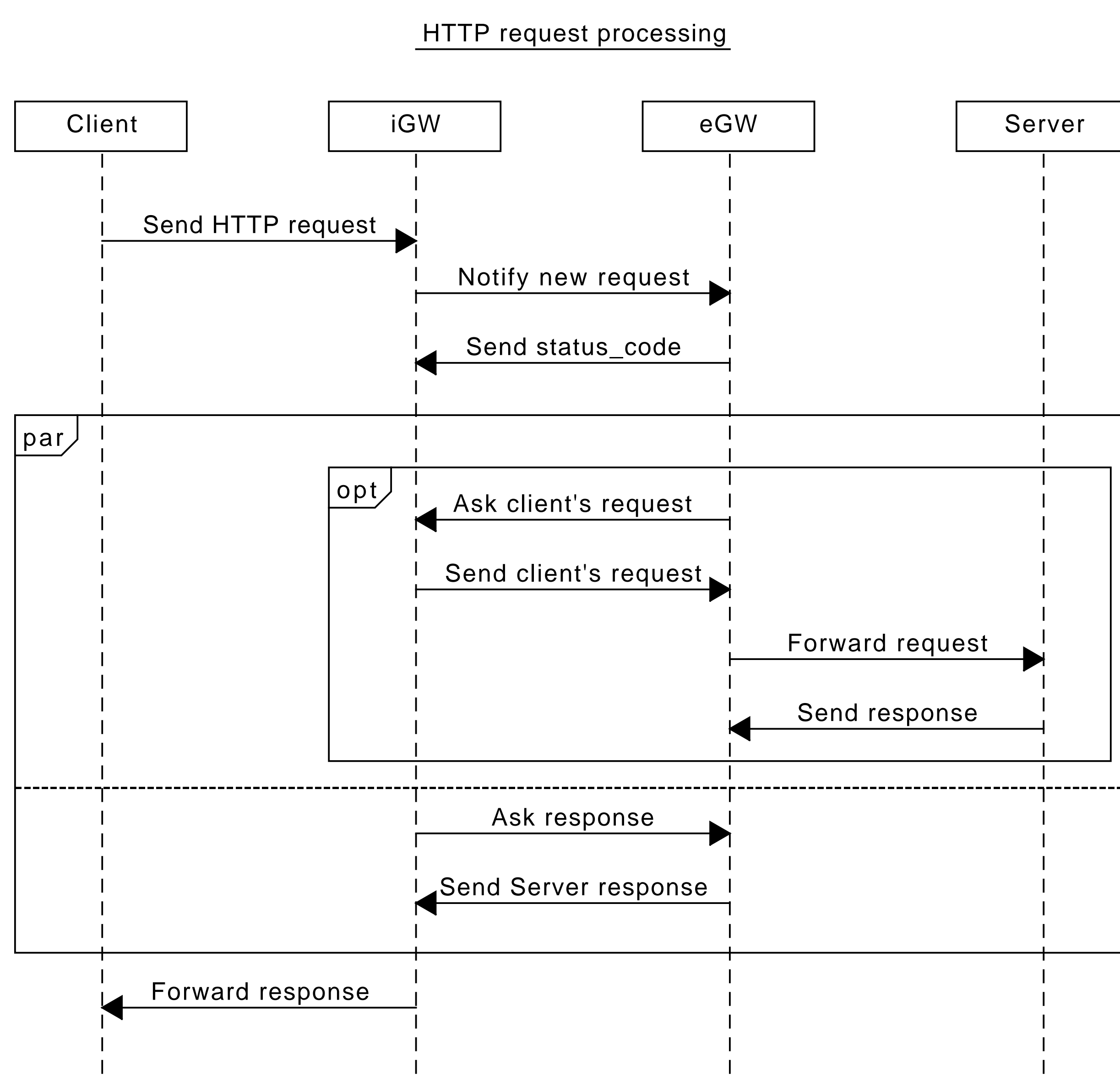
- ▶ Leverage **Network Functions Virtualization** (NFV) to deploy NDN on commodity hardware;
- ▶ Interconnect NDN islands with **the Web** (HTTP) through gateways;
- ▶ Properly **monitor** and **orchestrate** the virtualized NDN network;
- ▶ Design new virtualized functions dedicated to NDN.

## DOCTOR's proposition for a Virtualized NDN infrastructure



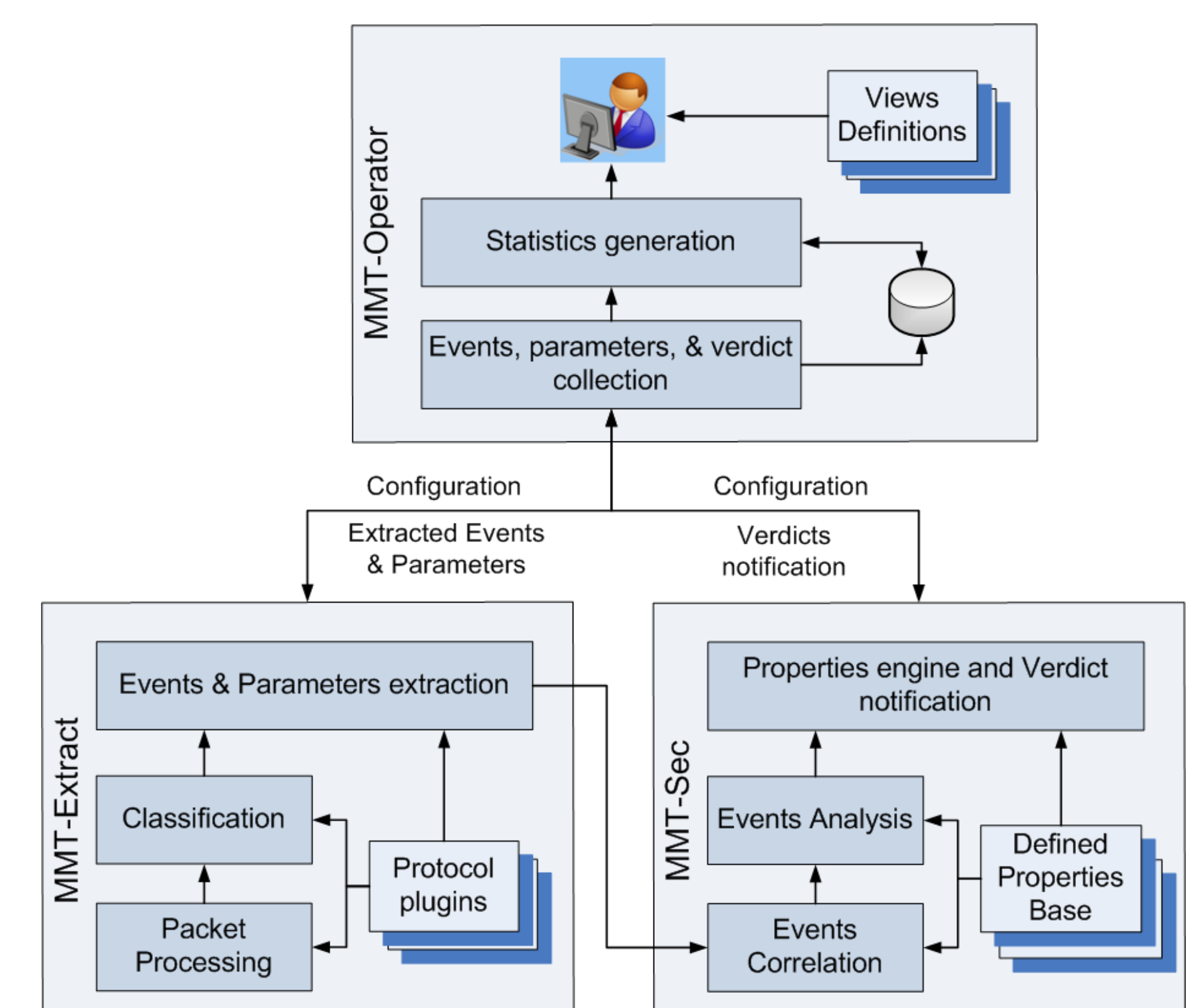
## NDN/HTTP gateway

- ▶ The whole NDN network works like a HTTP proxy
- ▶ Composed of 2 gateways:
  - ▷ IP→NDN (iGW) and NDN→IP (eGW) translation for HTTP



## Montimage Monitoring Tool (MMT)

- ▶ Based on DPI
- ▶ Centralized Operator
- ▶ Distributed Probes
- ▶ Compute performance and security indicators
- ▶ Build web report
- ▶ Plug-in to support NDN



## NDN network Management network

