Network Performance Management in SDN Environments

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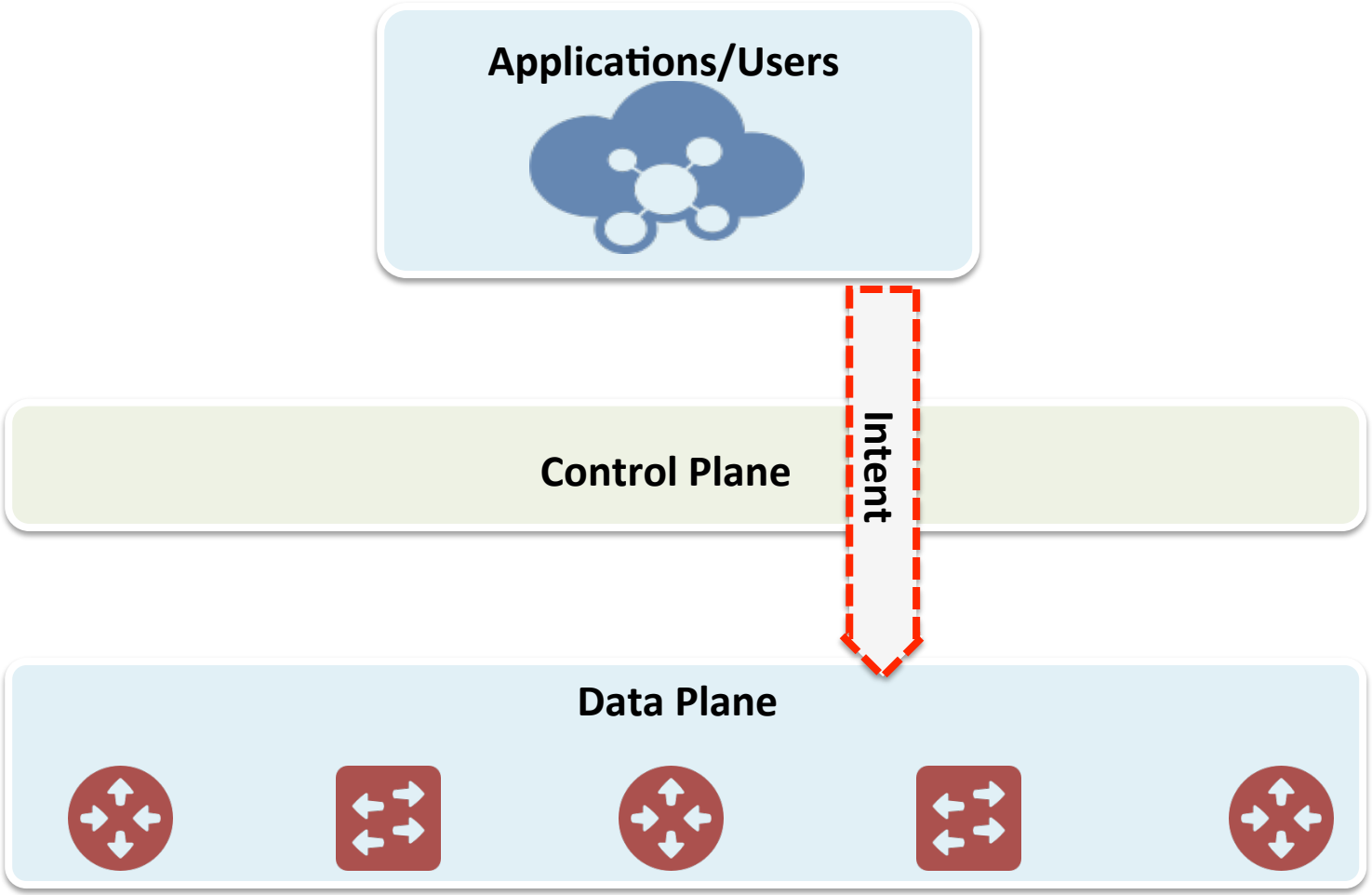
Software Defined Networking



Impact of SDN

IT infrastructures are evolving to become more:

- **Virtualized**,
- **Distributed**, and
- **Dynamic**

Ensuring end-to-end performance will be extremely difficult.

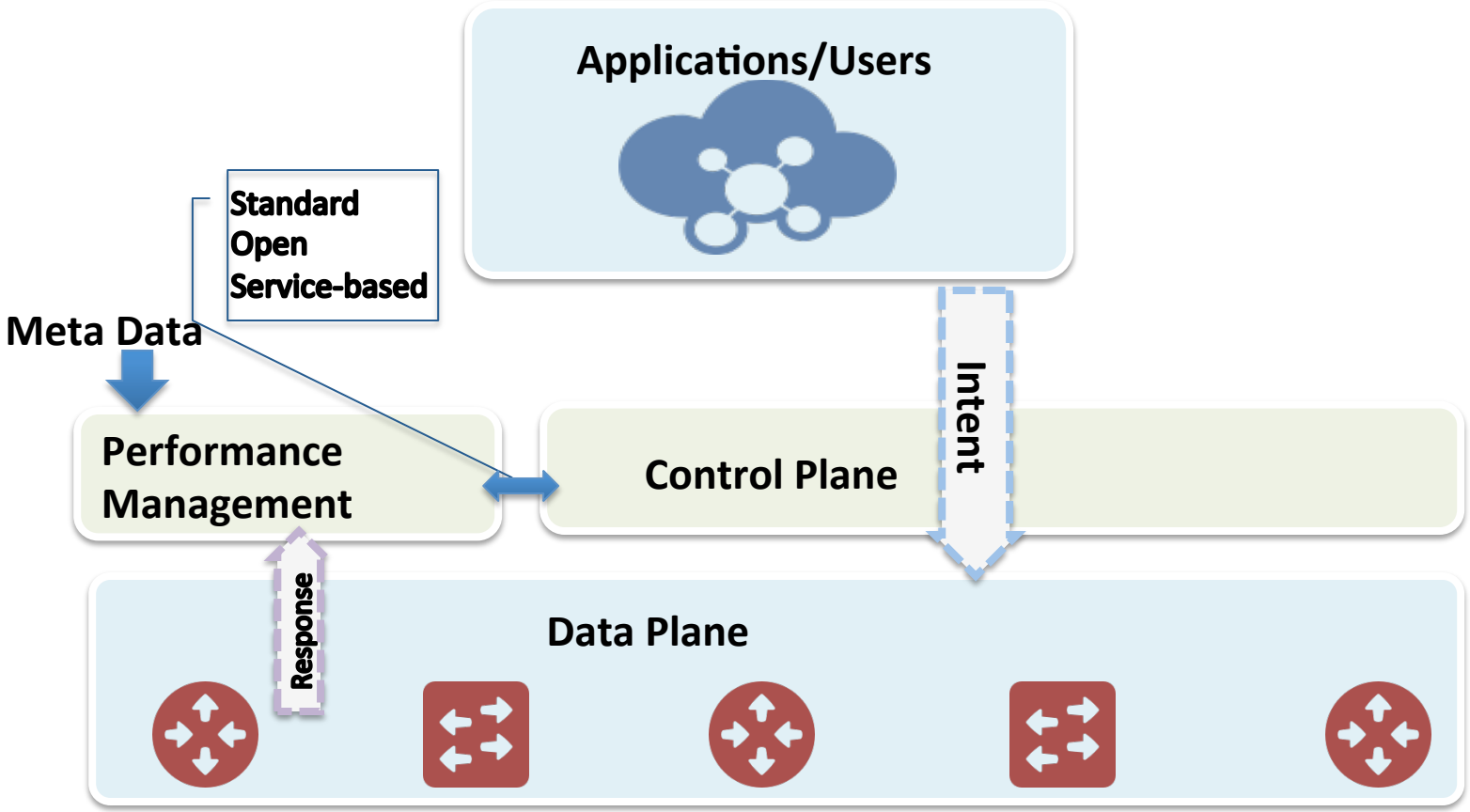
What will happen to existing monitoring tools?

Do we throw out all the traditional management tools, e.g., SNMP, syslogs, perfSONAR, etc.? – **Not really**

SDN controllers provide device-specific counters, e.g., traffic and state information. – **Not enough**

- In dynamic SDN environment, there is even greater need of end-to-end performance management.
- SDN environment will be fluid and vary in sub-second intervals.
- Performance management infrastructures should be able to give real-time network state with exact context.

Software Defined Networking



Requirements of Next-Generation Performance Management

Application-Aware Performance Measurements

- Collect relevant measurements to accurately depict application/user performance.
- Facilitate contextual representation of network state.

Seamless Integration

- With SDN controllers from various vendors.
- Open, Standard, and Service-based.

Requirements of Next-Generation Performance Management (Contd.)

Scalable Analytics Framework

- Process huge amount of data in near real time.
- Augment SDN controller data with end-to-end measurements and meta data for meaningful insights.
- Create actionable and contextual information.

Network Performance Modeling

- Model network performance in near real time.
- Be application and user aware.
- Facilitate state prediction and verification.

Thank You!