

Performance Analysis of Cloud Interconnect

Telco Cloud Tracing Project
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Presentation by Mohamed Badr SBAI



Outline

Introduction

- ❖ Data Center Interconnect
- ❖ Project planning

Environment simulation

- ❖ Software router deployment
- ❖ Environment simulation

Solution implementation

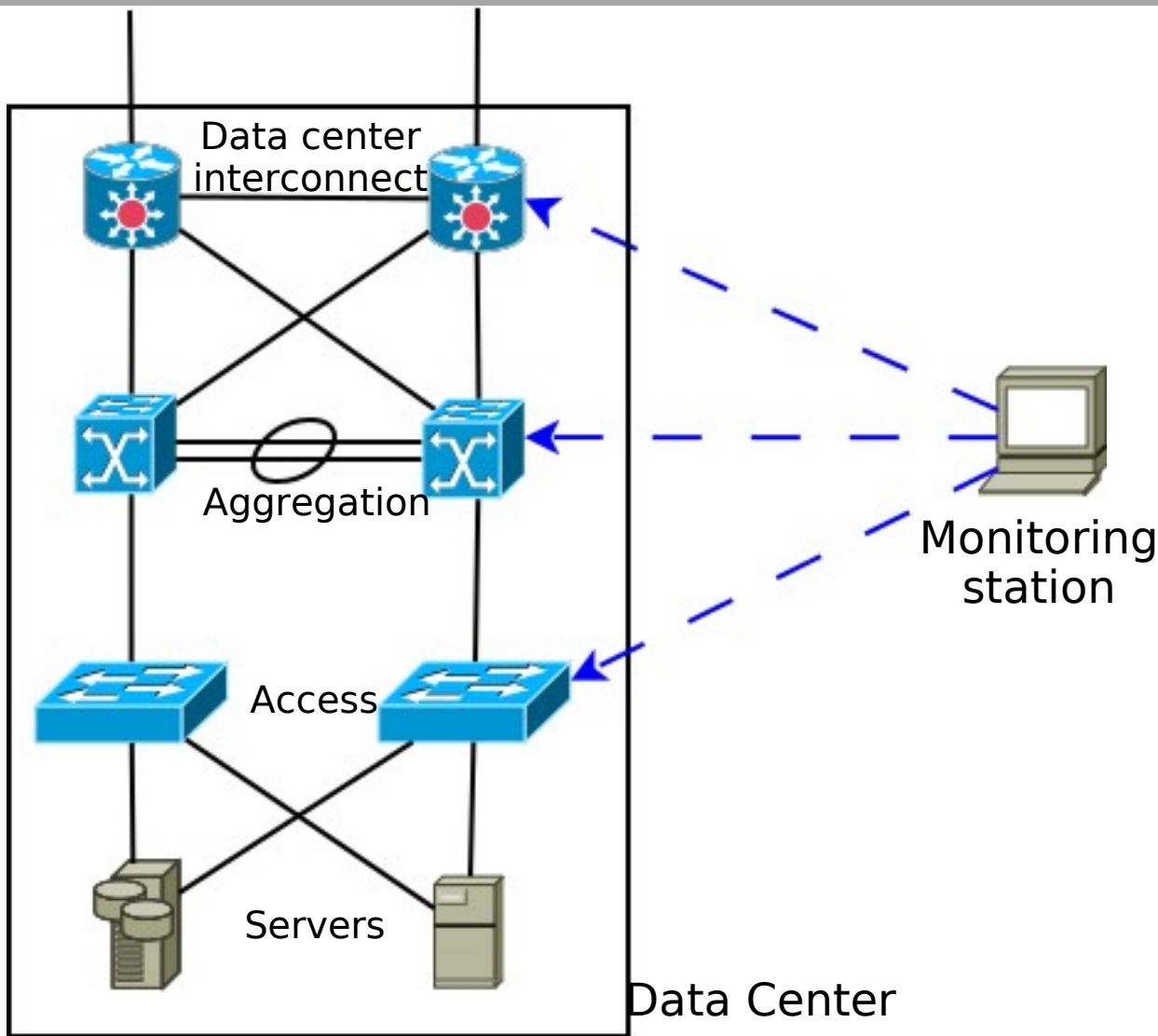
- ❖ Profile definition
- ❖ Tracing

Conclusion

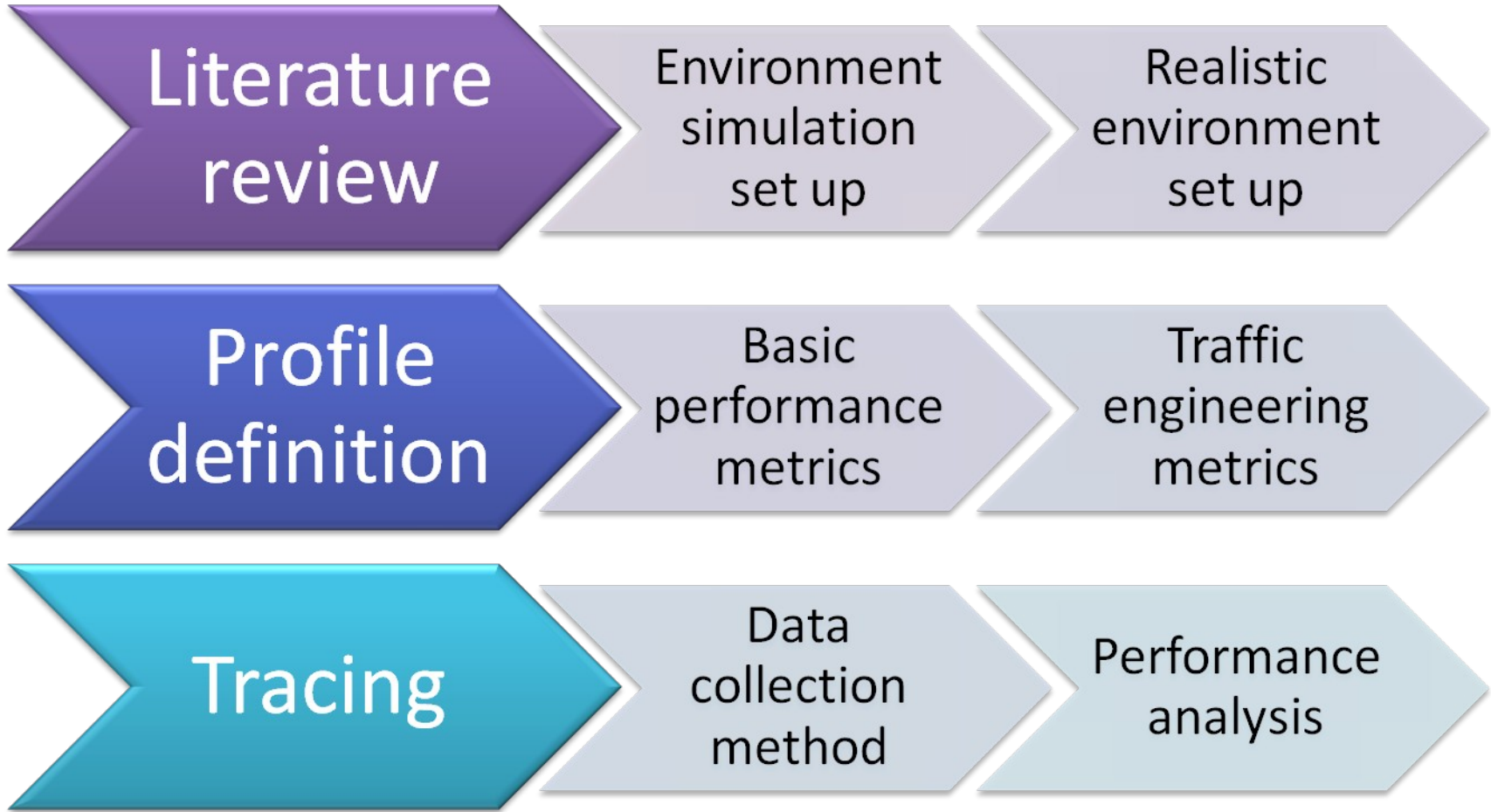
- ❖ Summary
- ❖ Vision



Data Center Interconnect

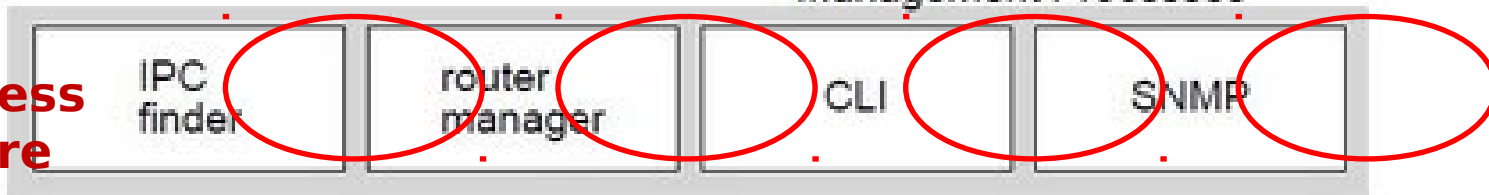


Project planning

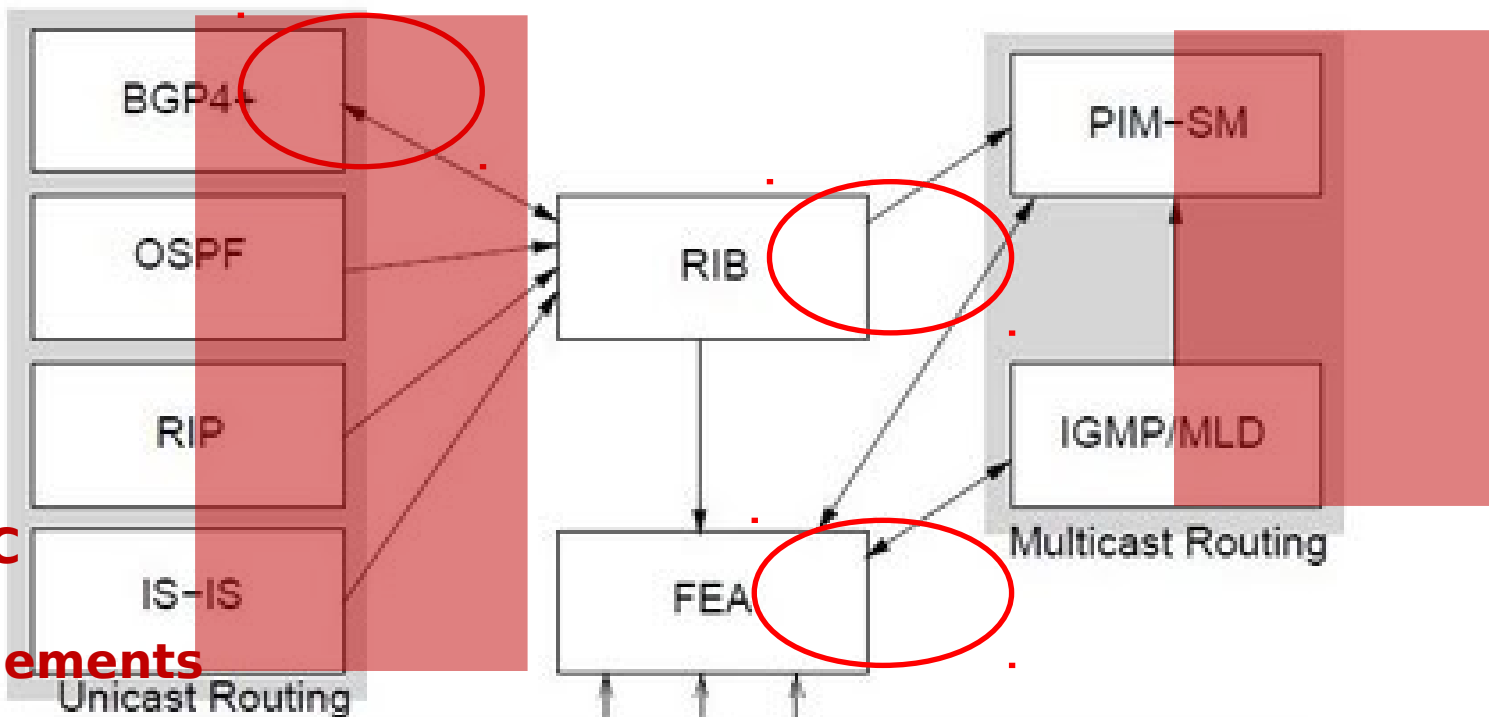


Study of a SR: Vyatta/XORP

Management Processes



Multi-process architecture



Isolated elements

flexible IPC interface between elements

RIB = routing information base
FEA = forwarding engine abstraction



Virtual Software Router (Vyatta)

vnet
1

Hypervisor (kvm)

Bridge

Host Machine

eth
0

eth
1

eth
2

eth
3

eth
4



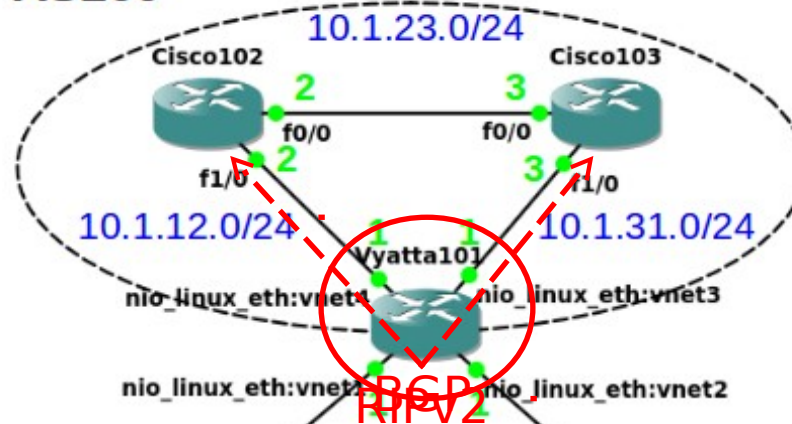
Environment simulation

- Simulation of a real network with other vendors routers.
 - Vyatta virtual software router.
 - GNS3 simulated Cisco routers.

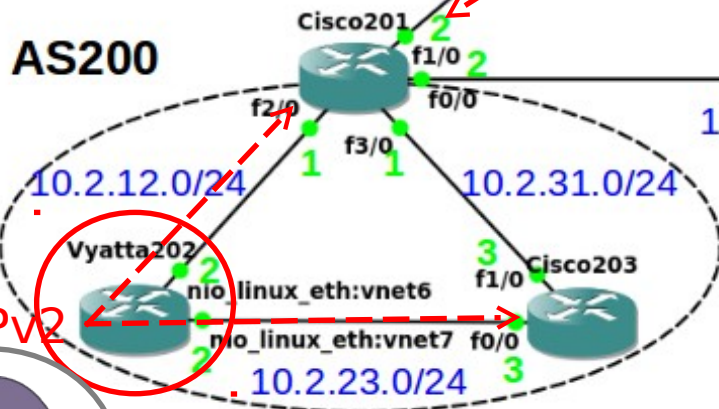


Environment simulation

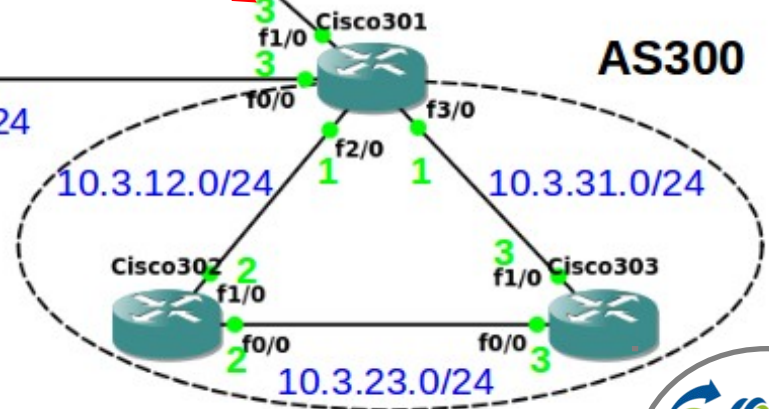
AS100



AS200



AS300



172.16.12.0/24

172.16.31.0/24

172.16.23.0/24

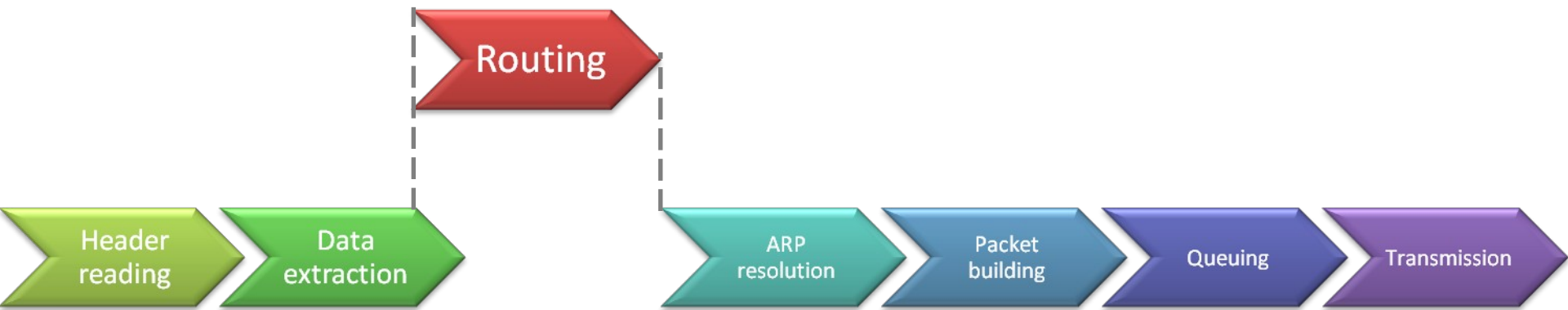
RIPv2

BGP
RIPv2



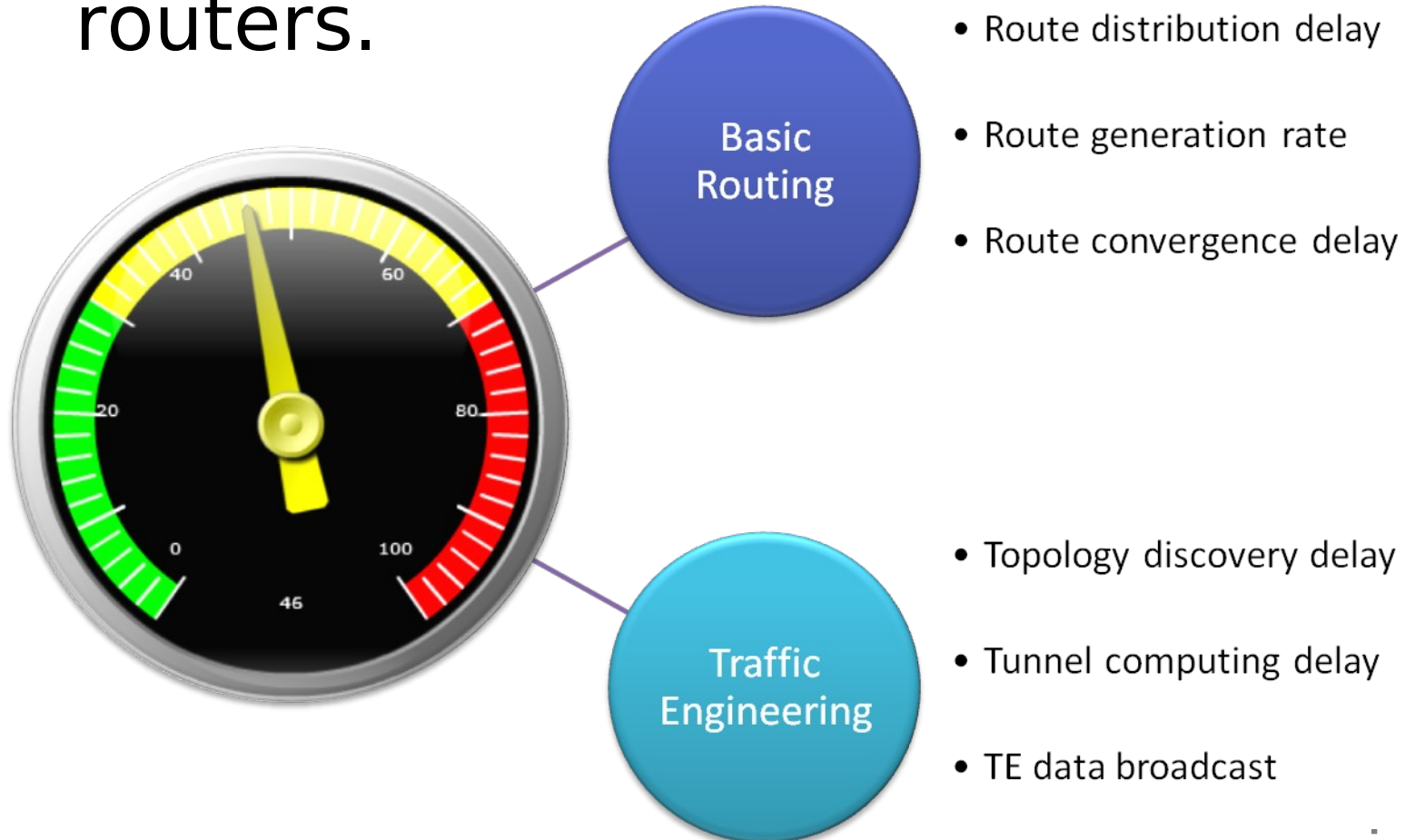
Profile definition

1. Identify performance metrics of routers.



Profile definition

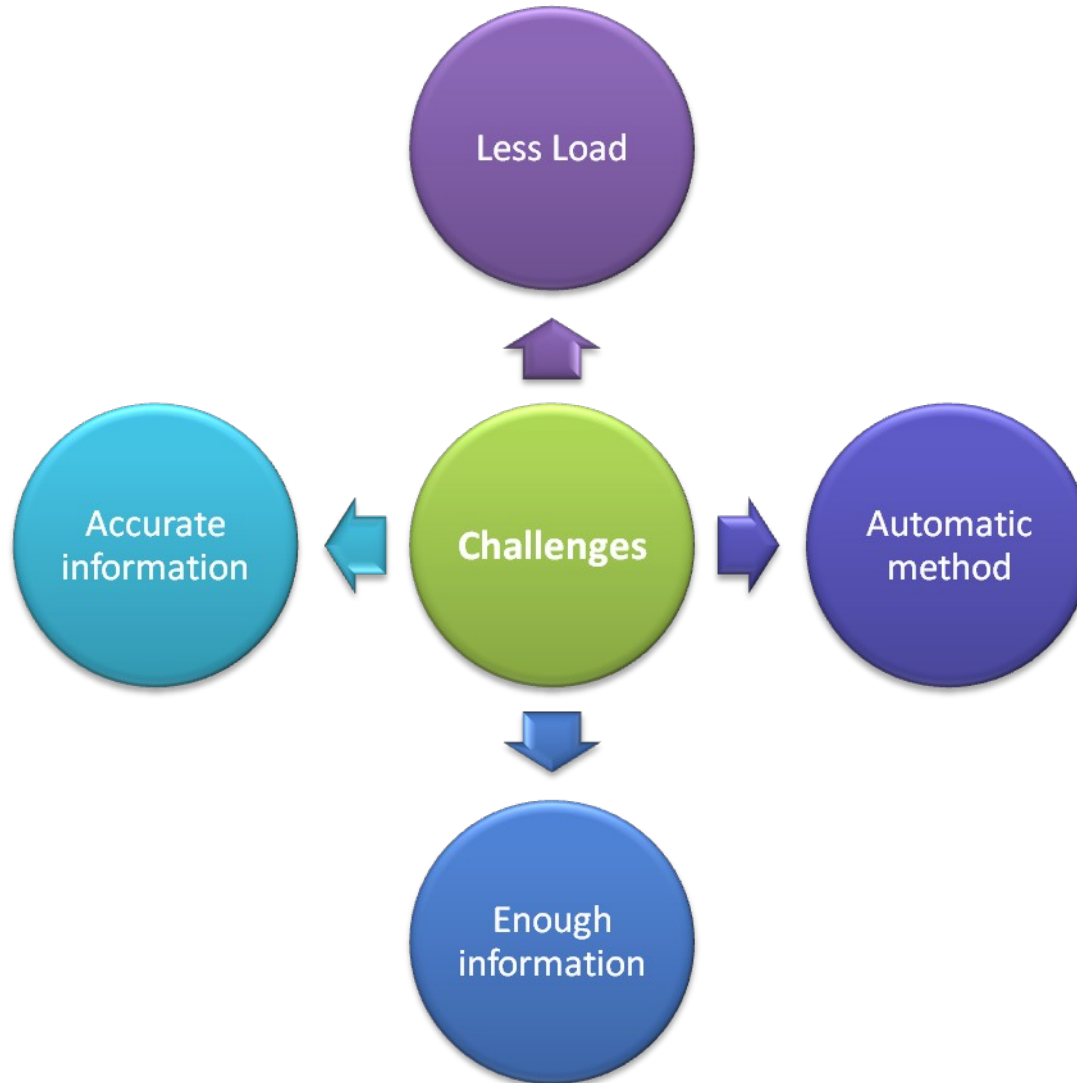
1. Identify performance metrics of routers.



2. Identify the modules responsible of the performance metrics.
3. Study the previous performance analysis methods and compare them to the eventual new method.



Tracing



Tracing

- Example:
 - **Delay**
 - Processing
 - Queuing
 - Transmission
 - Propagation

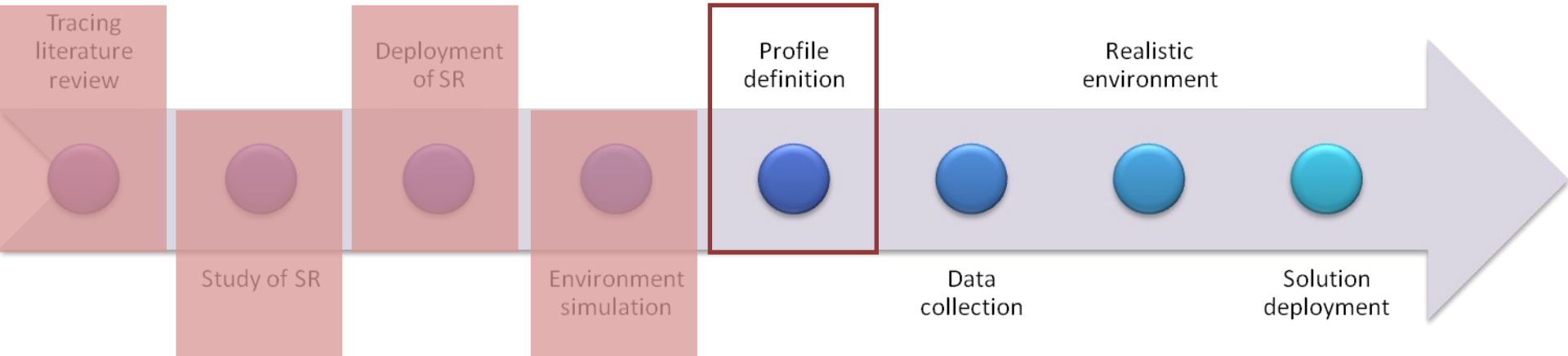


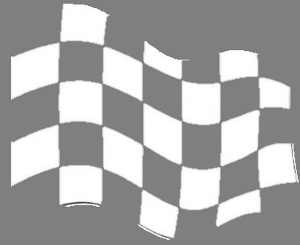
Tracing

- Example:
 - **Delay**
 - Processing
 - Header analysis
 - Header field update
 - Next destination resolution
 - ...
 - Queuing
 - Transmission
 - Propagation



Time line





Thank you!