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Using Packet Flow Based Measurements to Support IT Services

Dennis Bateman, August 2019

This briefing has been approved for unlimited release.

Lead In

Can you see the IT Service that you are delivering to your customers?
How well do you know the health and performance of the service you are delivering?
Do you know if networked issues are impacting your users?
When they do, what is the source of the issue?

Let packet flow analysis help make operational decisions, set priorities, generate metrics, enable proactiveness, and much more.

You can't fix what you can't see.

Networks do not remain healthy and high performing without the awareness of human insightfulness.

Managing networks is Complex.

A Team is usually required to resolve hard end-to-end network issues
flow analysis creates a basis for collaboration with other IT service providers.

Modern IT Service Assurance is about automating with instrumentation for the success of business.

Just what is packet-based flow analysis, what good is it, and how do I get it?

Packets traversing on the network for the success of the business!

Packet speed, volume (throughput) of the packet flows, good verses errored packets, listing conversation details, interpreting packets, providing IT service insight, etc.

Resolve complex problems like Hard, Long-term, Intermittent Issues that are hard to fix.
Creates a basis for collaboration with other IT service providers to solve issues.
Finding answers to questions: What is slowing down user response time and what is impacted the flow of packets?

Mirroring and Tapping are techniques for attaining copies of packet flows.
Packet Analysis is interpreting flows to prove and gain insights.

Examples for how Flow Analysis can be used
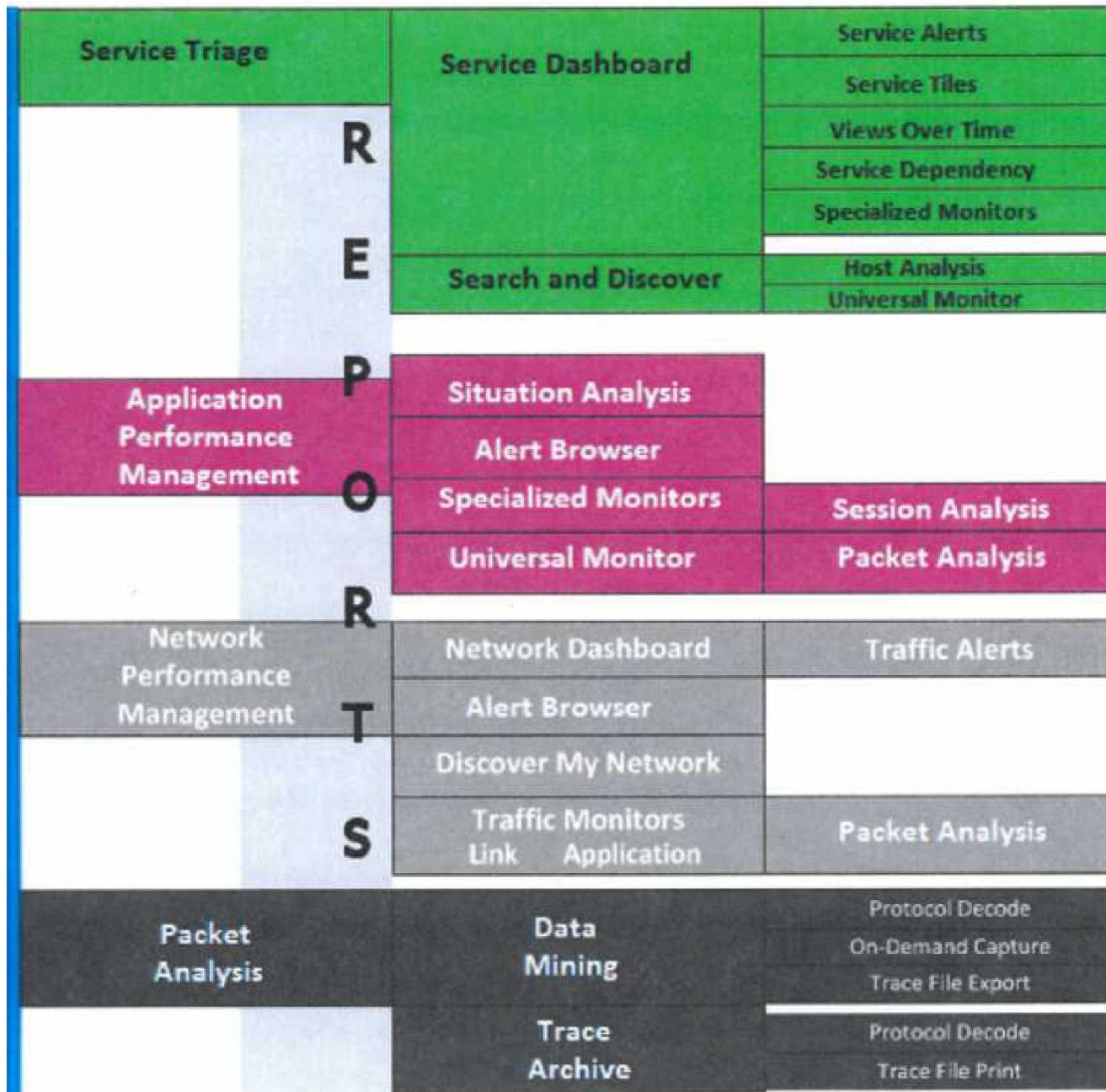
The Disciplines and Maturity of IT Service Provision

- Supporting the UX (User Experience)   [How much time do you spent with UX?]
    Having a capability to characterize and visualize flows, isolate and determine a root-cause, to see server session load, compare application session successes to failures, measure network and application latency, keep tabs on retransmission rates.

- Responsiveness to Trouble   [How much time do you spent being Reactive?]
    Pursue correction action for the restoration of the service.

    Using baselines and trends to establish thresholds for alert notifications.

- Proactiveness   [How much time do you spent being Proactive?]
    Noticing and responding, in your own time, to preserve service conformance to industry standards and SLAs, Service-Level Agreements.

- Monitoring, Metrics, Performance, Availability, Capacity, Performance, Management, Assets, Security
                    [Do you manage all of the above well? Could a tool help?]

What does packet-based characterization and visualization cost?

- How much does business spend on routing and switching costs per connection?

- What does each employee cost?

- How important are your critical services?
  - Payroll? Databases, External facing business webpage?

- What is invisibility cost?
  - You can know what you can see which can hurt you!

Time
Cost of Delay
Performance

Cost
Investment
expense

Scope
Return on Investment
Agility
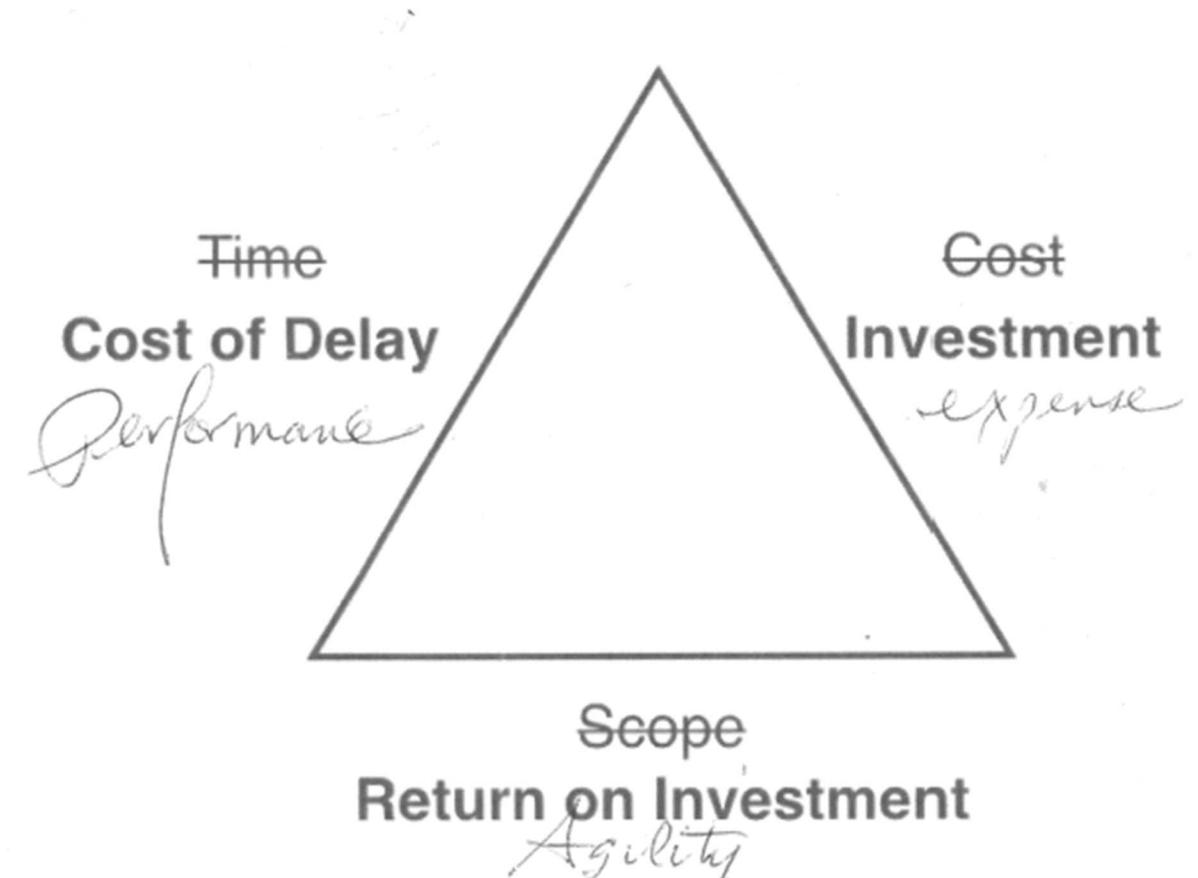
In Summary the significance of using packet insights

To have measured answers, packets can't lie, they happened.

Characterize your network flows for planning, teaming, and enabling management to make decisions.

Research many questions, any that can be conceived, about the delivery of IT services by harvesting answers from a readily available database query point with application flow characterizations.

Know who to involve for help with an issue, e.g., Application Support, Server Admin, Networker, Desktop, Streaming (Audio, Video, VoIP), Database, Storage, Wireless.

Have Network Health and Performance Metrics and Reports to Management.

Support trouble resolutions with detection, warnings,

Provide hourly, daily, weekly, monthly automated reports.

HAPPY COMPUTING!

Q & A