Managing Technology
Tivoli Architecture and Solutions

German Unix User Group
February 2002

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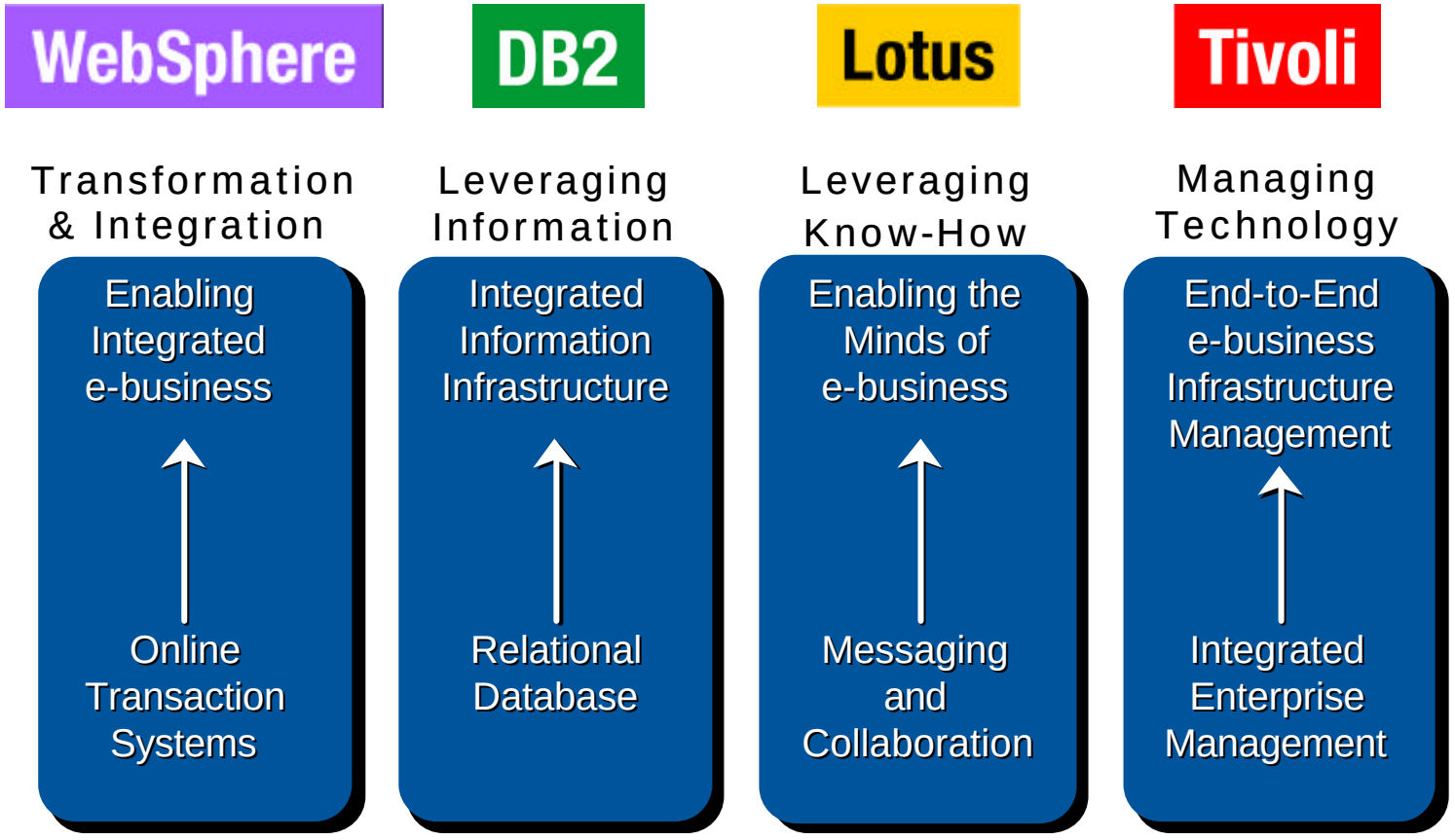
IBM Software Group

Tivoli software

IBM e-business Infrastructure Software



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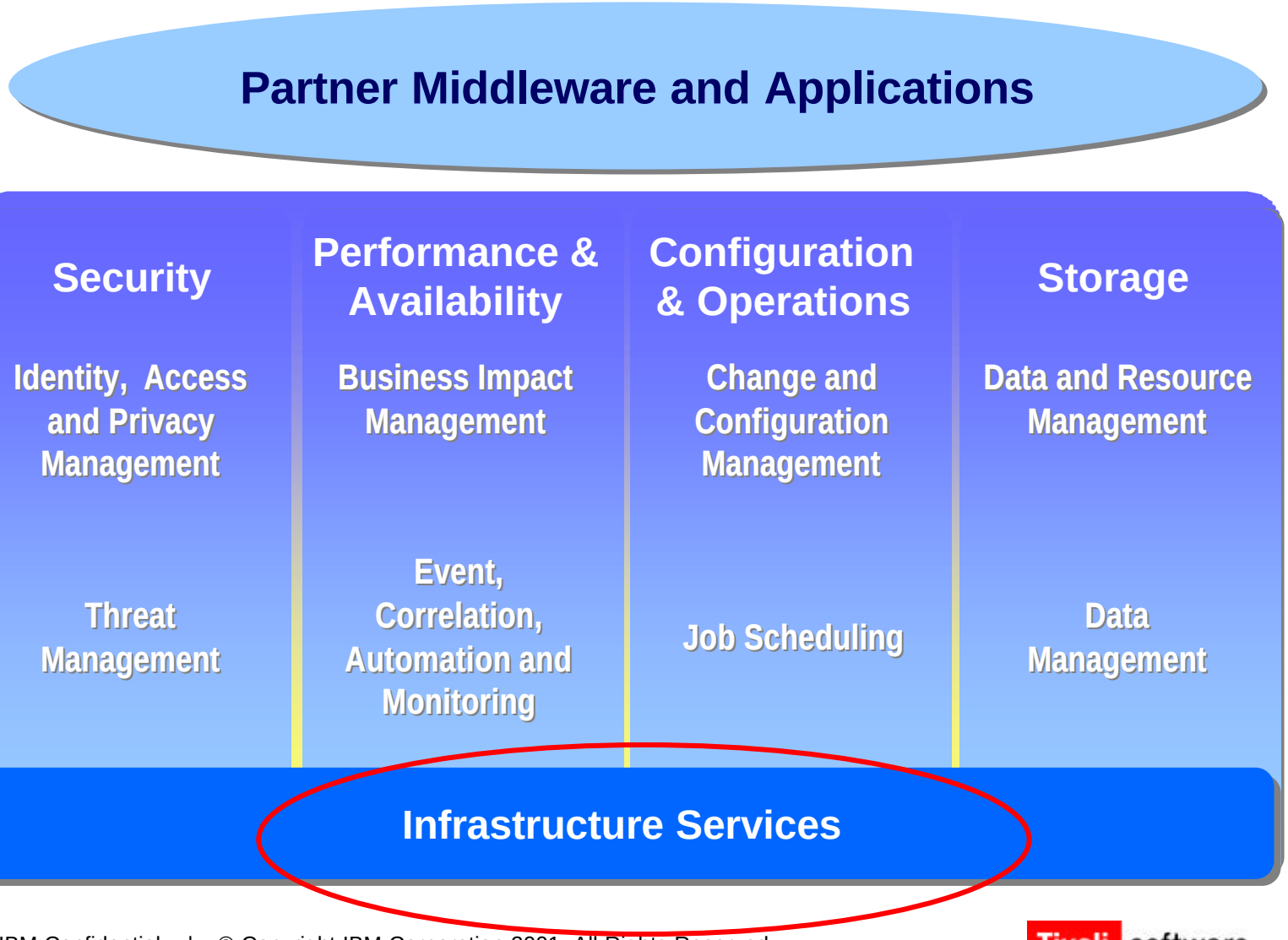
Tivoli software

Tivoli Areas of Focus



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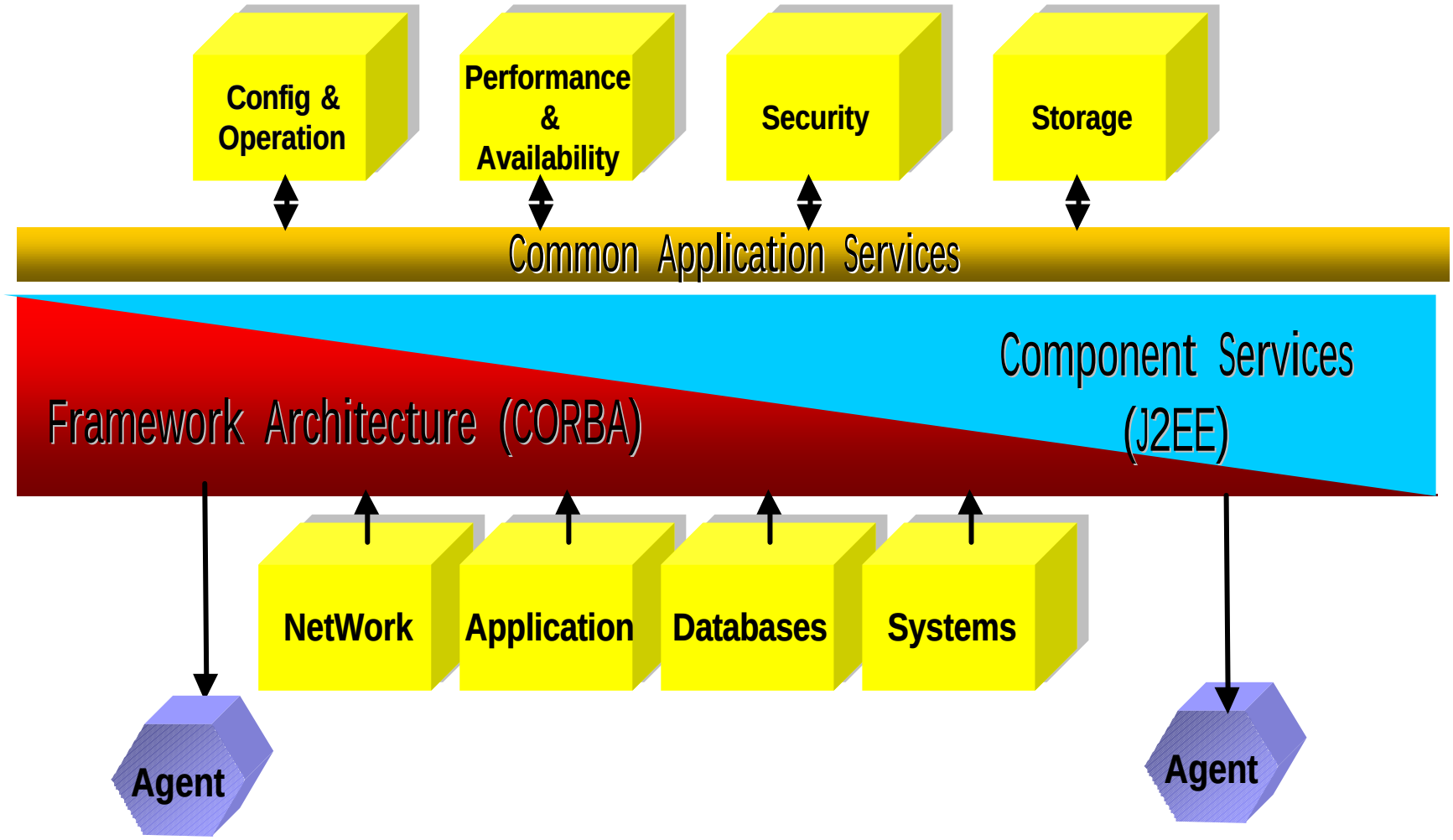
High Level Architecture



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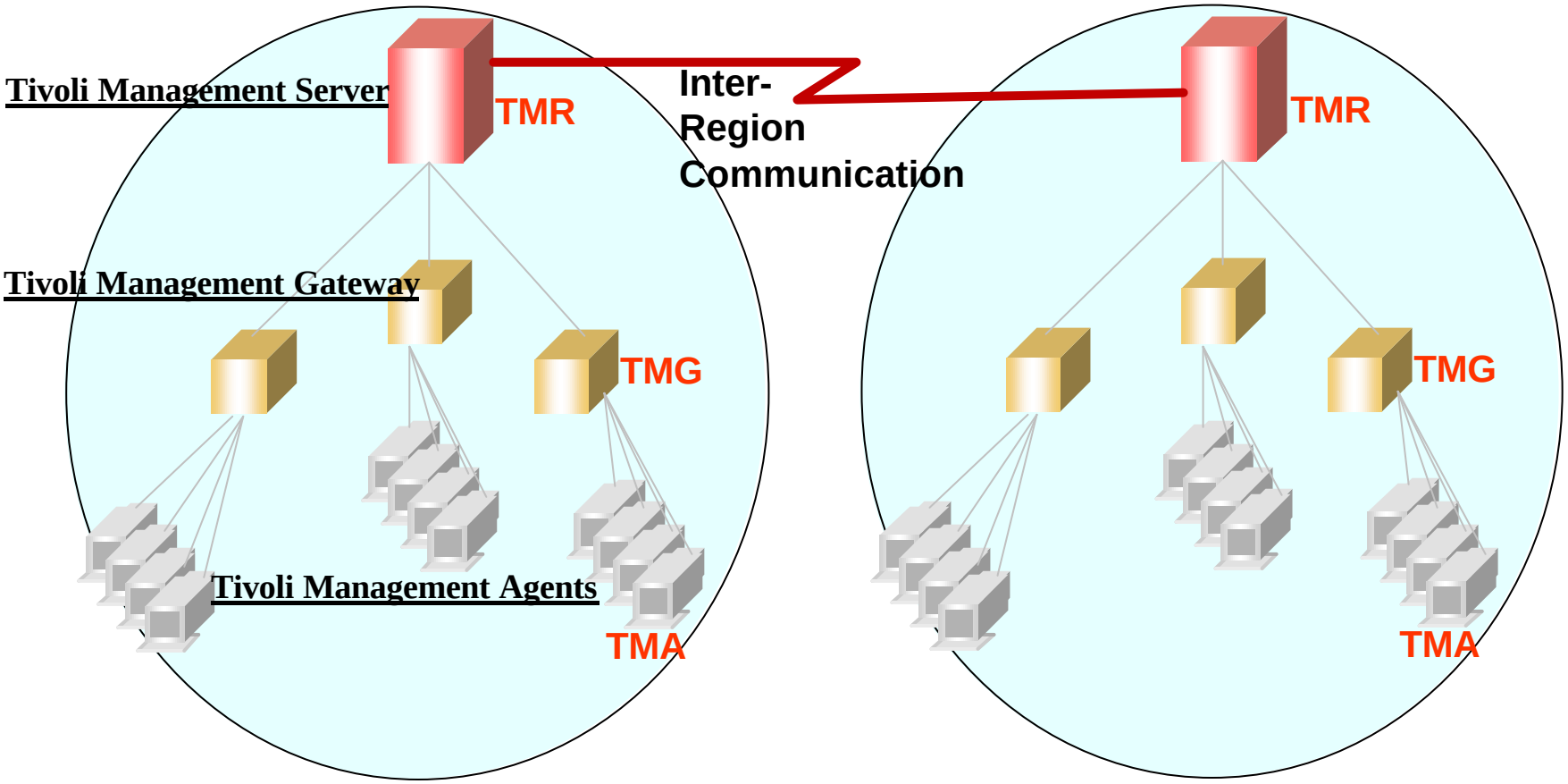
Physical Architecture

Tivoli Management Region (TMR)



Organisation - Scalability - Geography - Security - Networking

Central and/or Distributed Management Design

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Platform Strategy

- **Based on Market Direction – Customers / Analysts**
- **Reducing ‚Managing Platforms' towards**
  - **UNIX (AIX, HP-UX, Solaris)**
  - **LINUX (including /390)**
  - **Windows**
- **Keep Broad Support for ‚Managed Platforms'**
- **Strong IBM Focus on Linux**
- **Tivoli Support**
  - **‚Managing & Managed' Platform Support**
  - **Strong Demand for Linux on zSeries (/390)**
  - **Red Hat, SuSE, TurboLinux**

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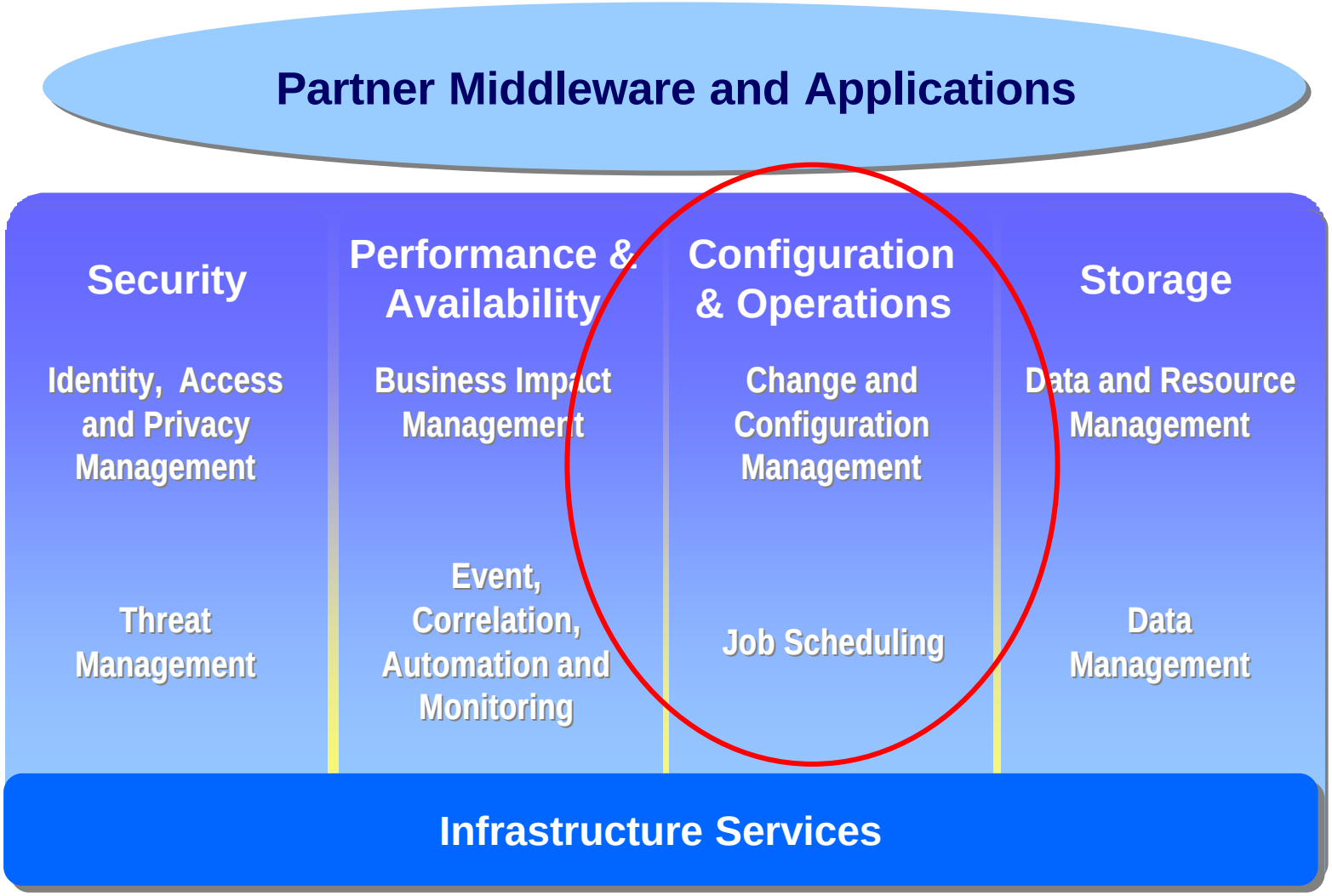
Configurations & Operations



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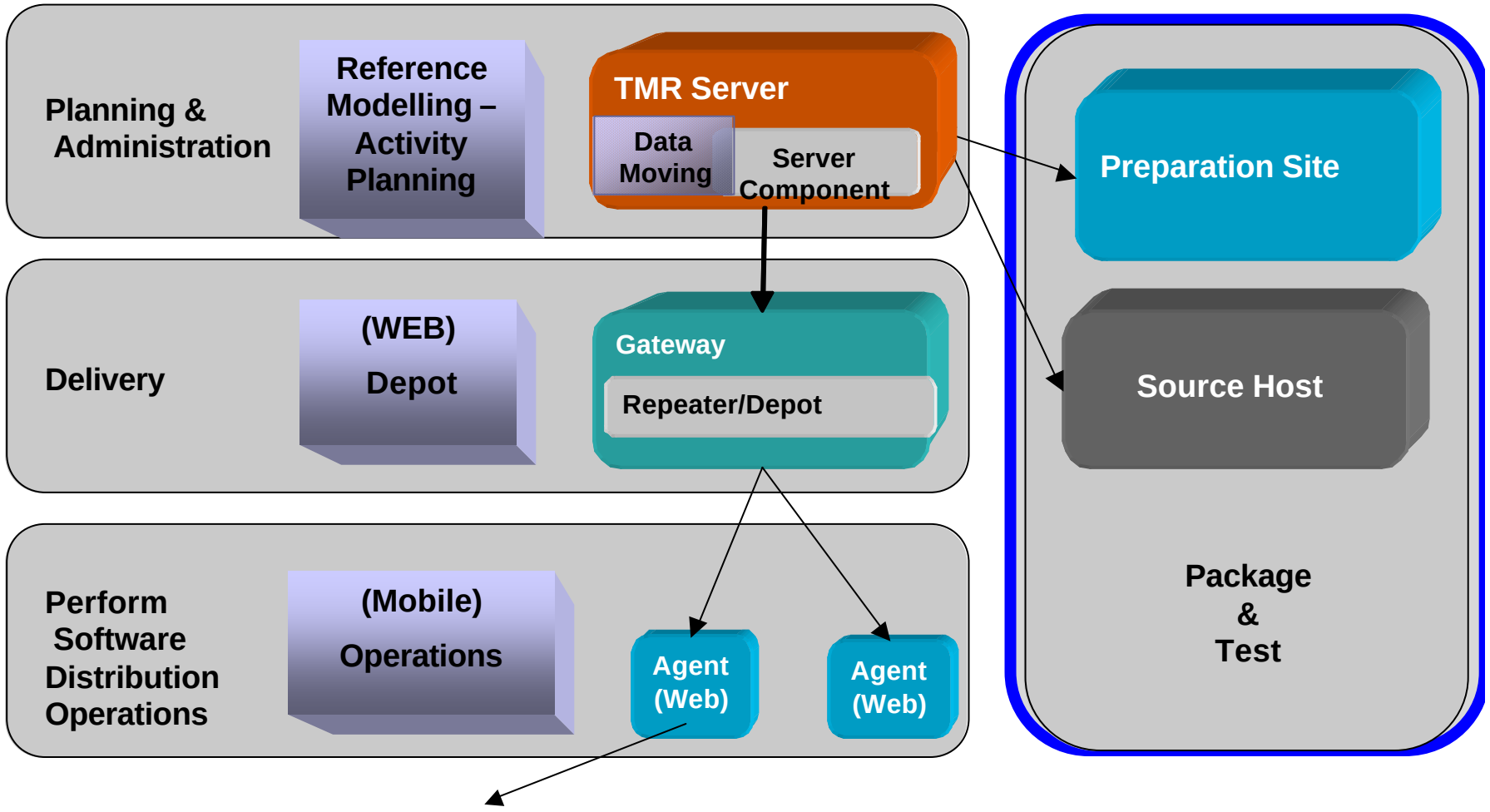
Configurations Management



Devices (PalmOs, WinCE, Nokia Communicator, NetVista IAD (Neutrino + Linux OS)

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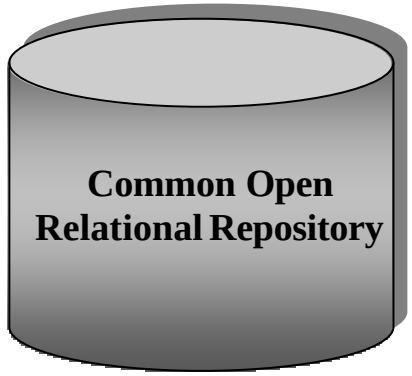
Configurations Management

Integration of Network Data

- Element Manager Device Information
  - Router, Hubs, Switches
  - CISCO Works
  - IBM Nways
  - Nortel Optivity
  - 3Com Transcend
- Leverage NetView
  - Interfaces
  - Segments
  - Nodes

Cross Platform Scanning Technology

- Server and Desktops (Mobile)
- Hardware and Software
- DMI Scanner
- User Info
- Custom Scanner



Scalable Collection Service

- Define when to return data
- Staged data transport
- Asynchronous
- Adjust to Bandwitdh

Integration with other Disciplines

- Software Management
- Change, Asset, Problem

Data Analysis & Reporting

- Predefined Queries & Reports

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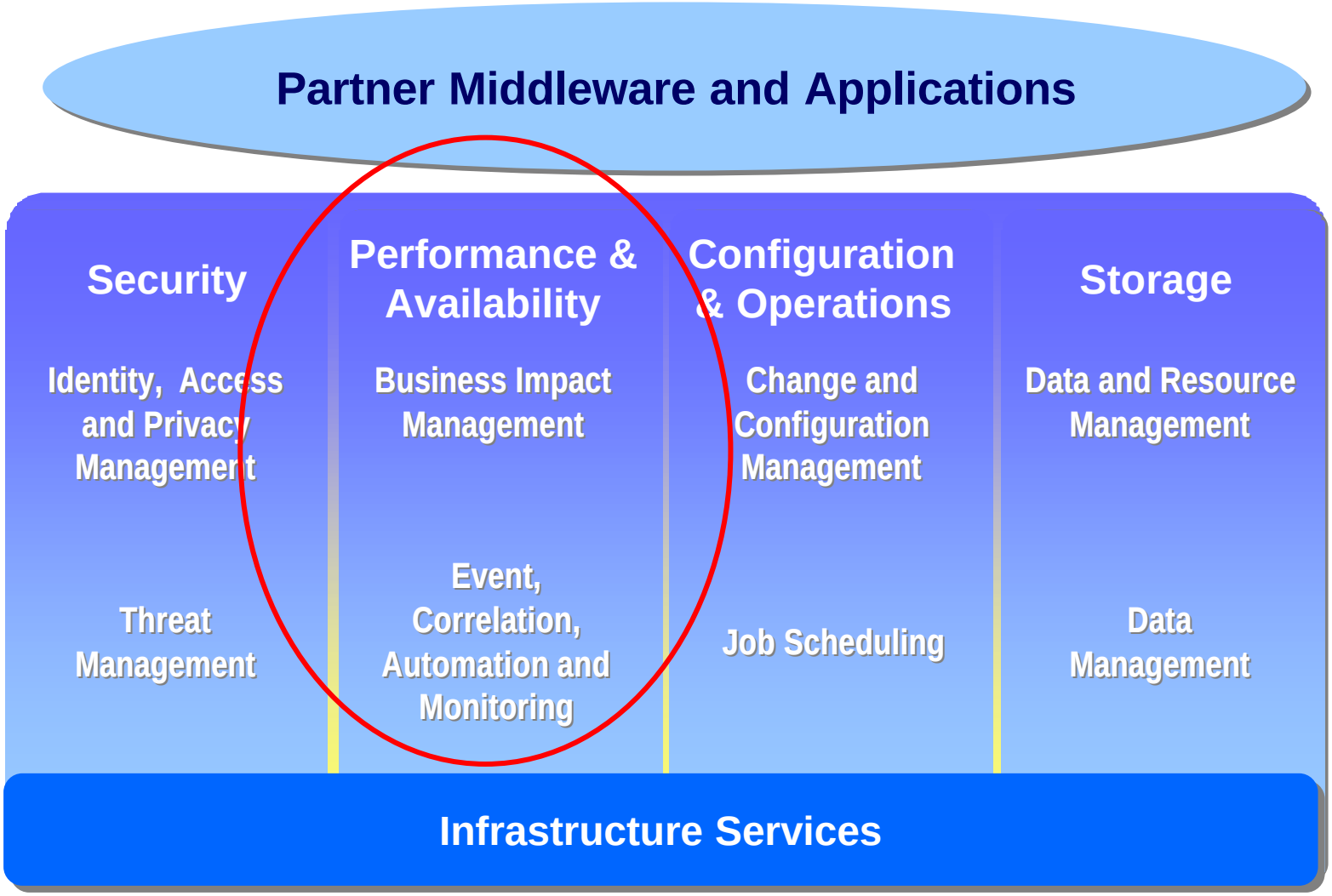
Performance & Availability



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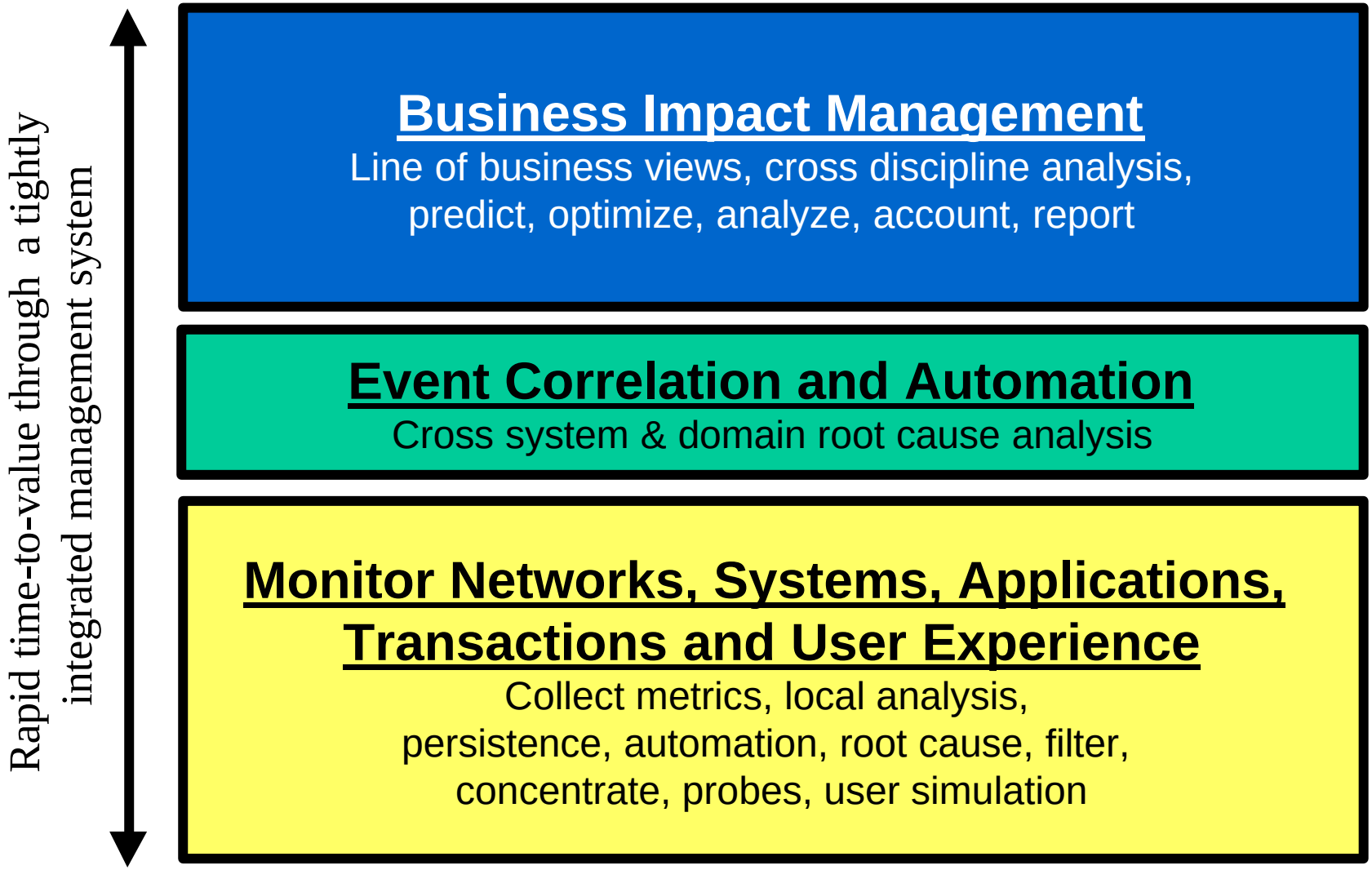
Performance & Availability



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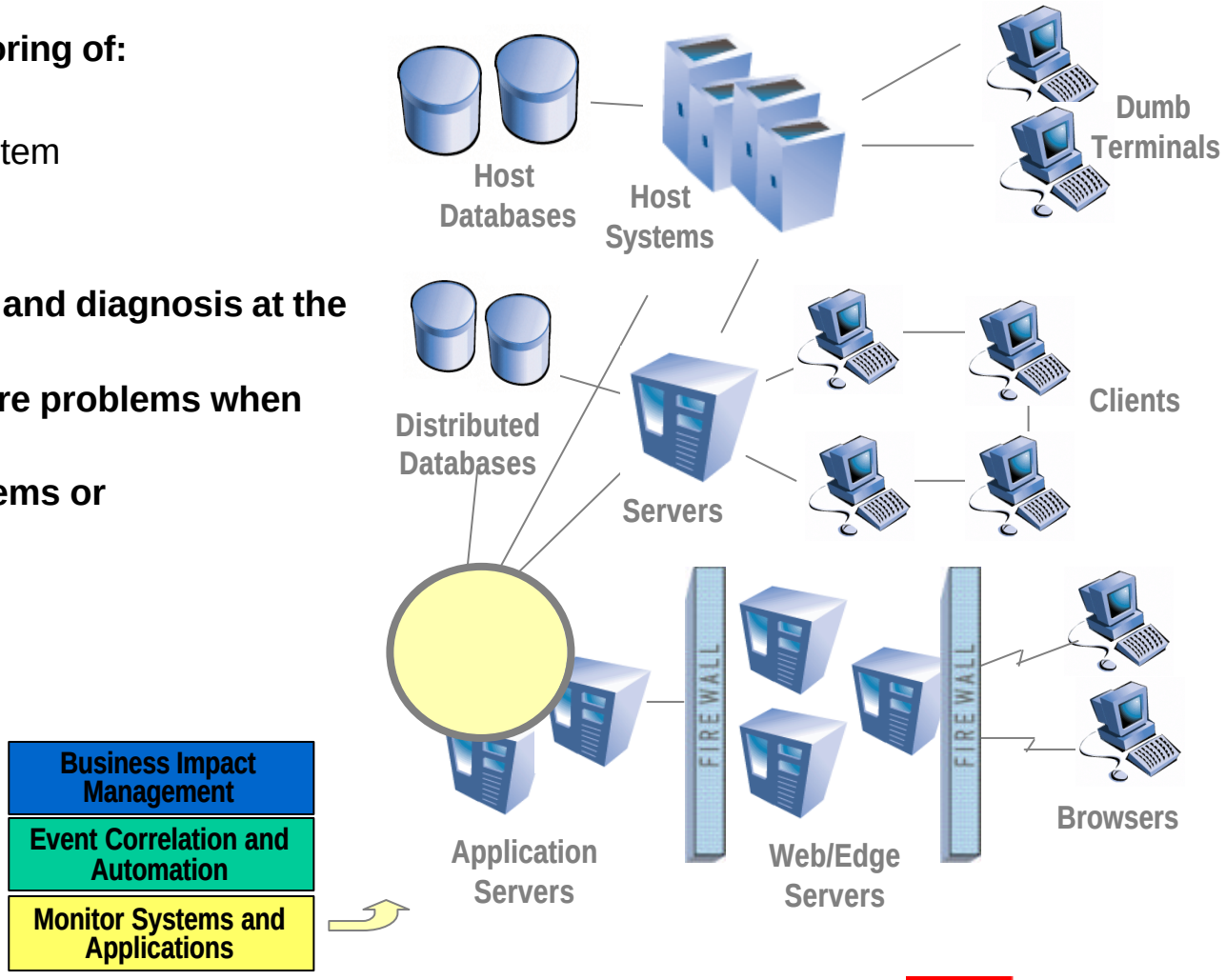
Monitoring Focuses on One Server at a Time

- **Combined monitoring of:**
  - Hardware
  - Operating System
  - Middleware
  - Applications
- **Local correlation and diagnosis at the server level**
- **Take action to cure problems when possible**
- **Notify other systems or administrators**



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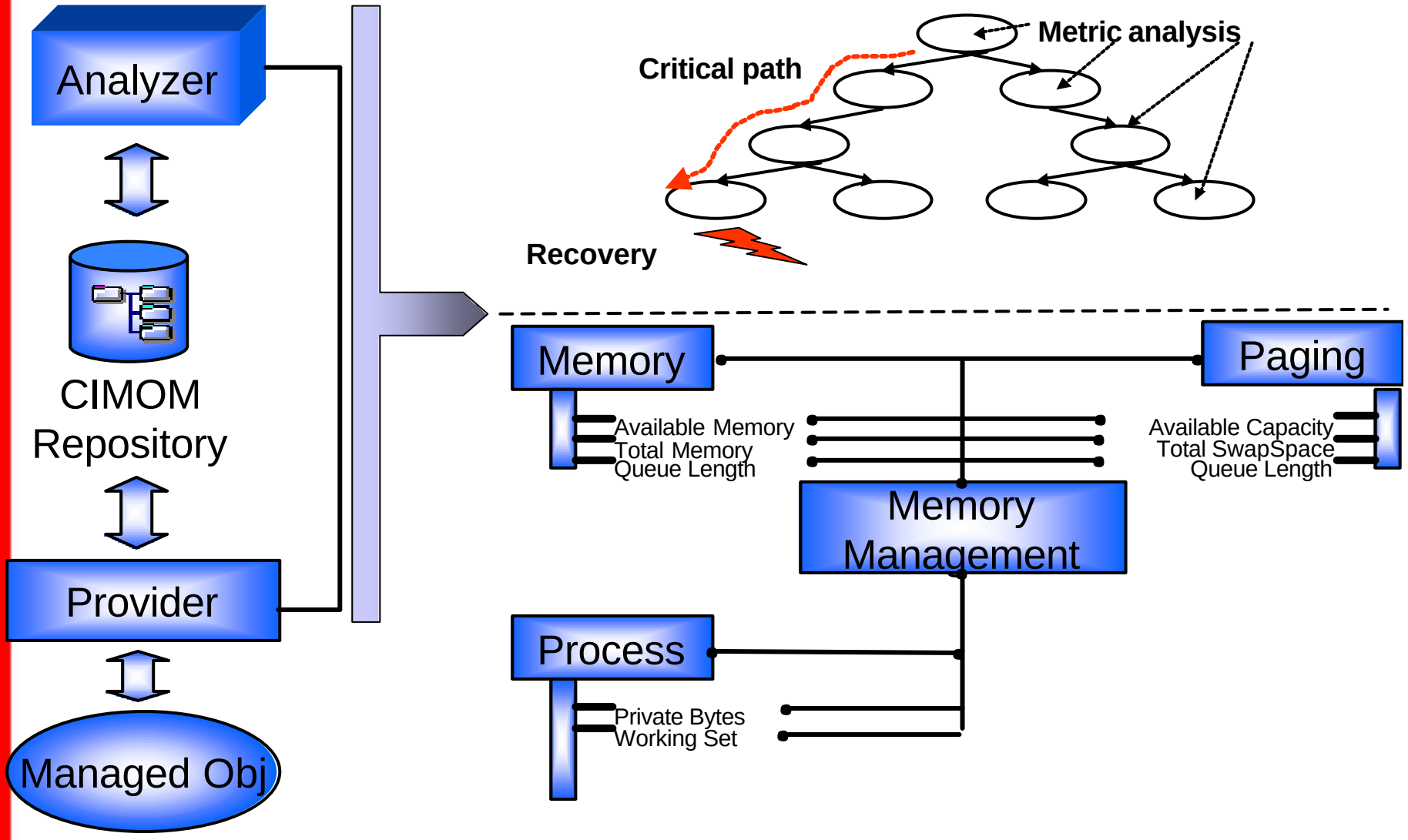
Monitoring Architecture



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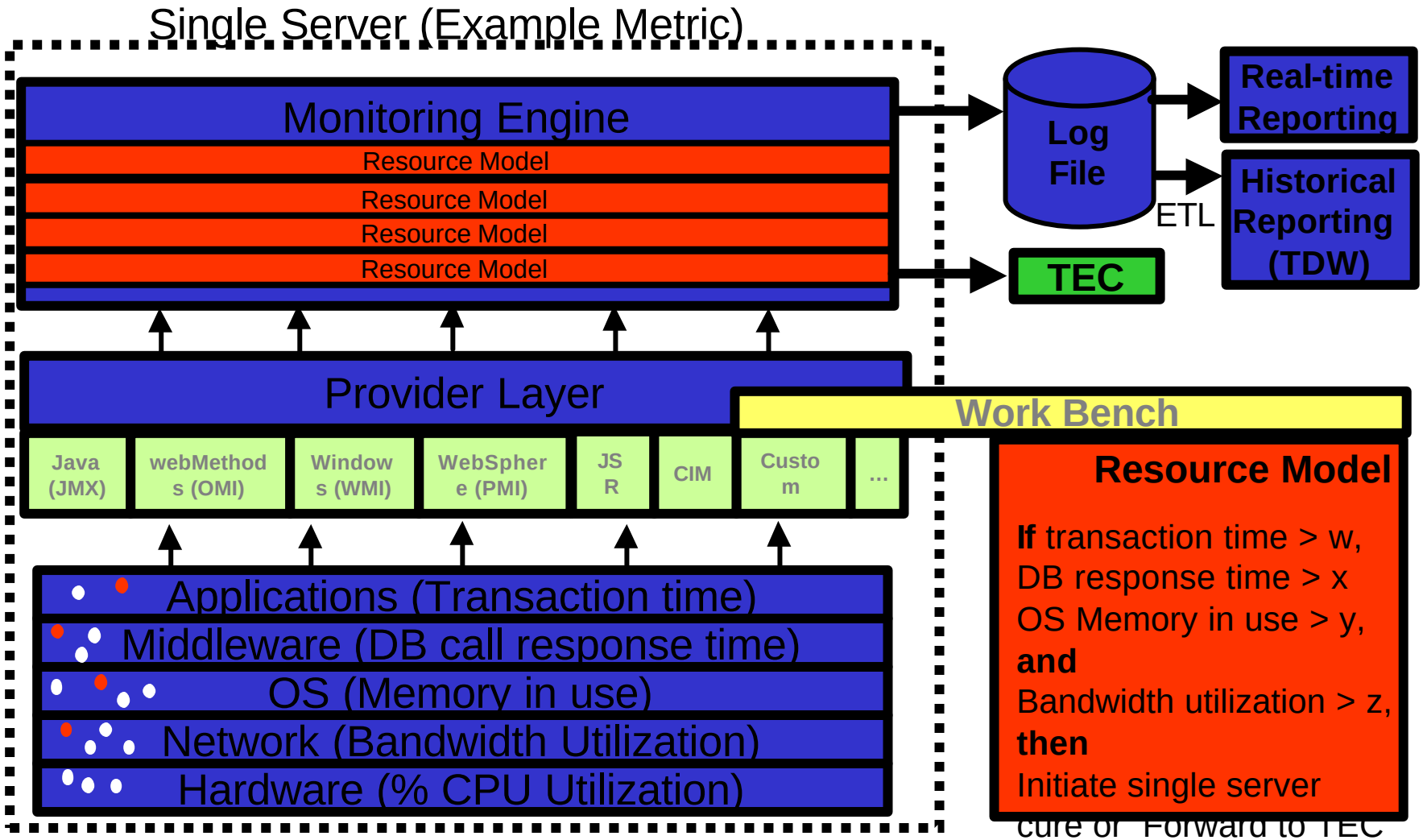
Monitoring Architecture



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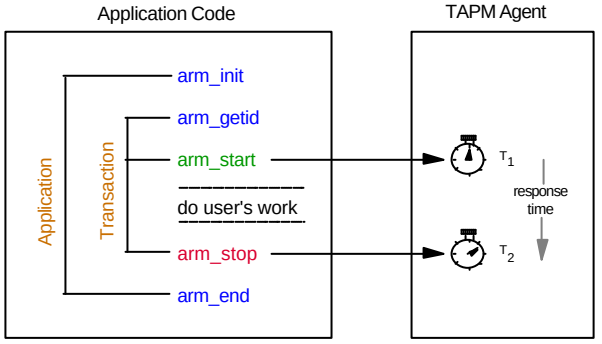
Transaction Monitoring

- **Problems to be solved**
  - Transaction Measurement in Web and Enterprise Applications
  - Focus on the Enduser Experience
  - What is my customers response time?
  - Are my key transactions available?
  - What is my backend service time?
  - How long did the page take to render?
  - How fast is my site traffic growing?
- **Monitoring for Transaction Performance**
  - ***Enterprise Application Performance Monitor***
  - Quality of Service Monitor
  - Synthetic Transaction Investigator (Simulation)

ARM API



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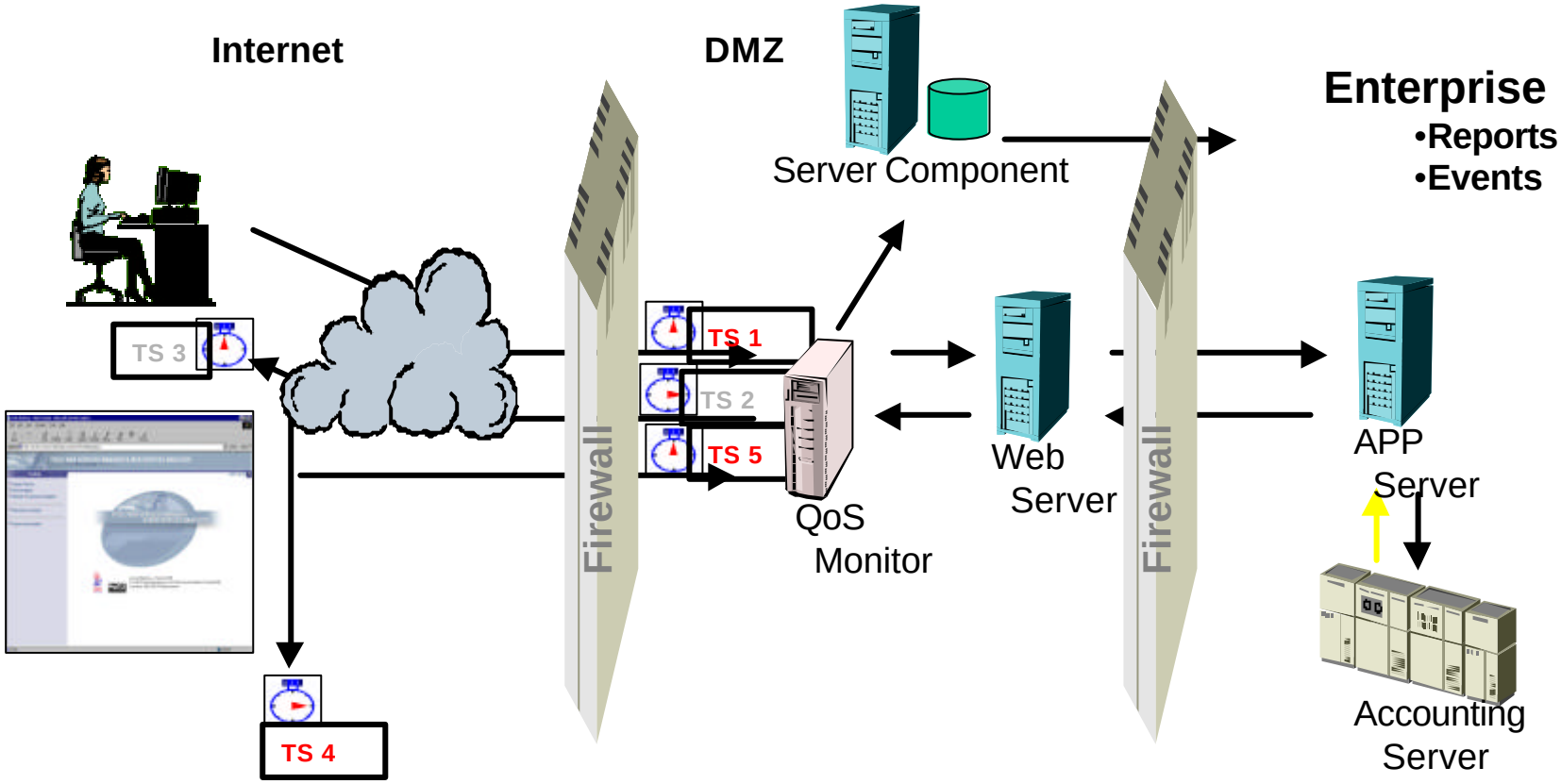
Transaction Monitoring – Quality of Service in Web Environments



1. User initiates a transaction from a browser
2. Transaction flows through backend (TS2 – TS1)
3. Client time measured via Javascript (TS4 – TS3)
4. Results sent to QoS/Server Component where T5 is observed :
   TS5 – TS1 = Round Trip Time

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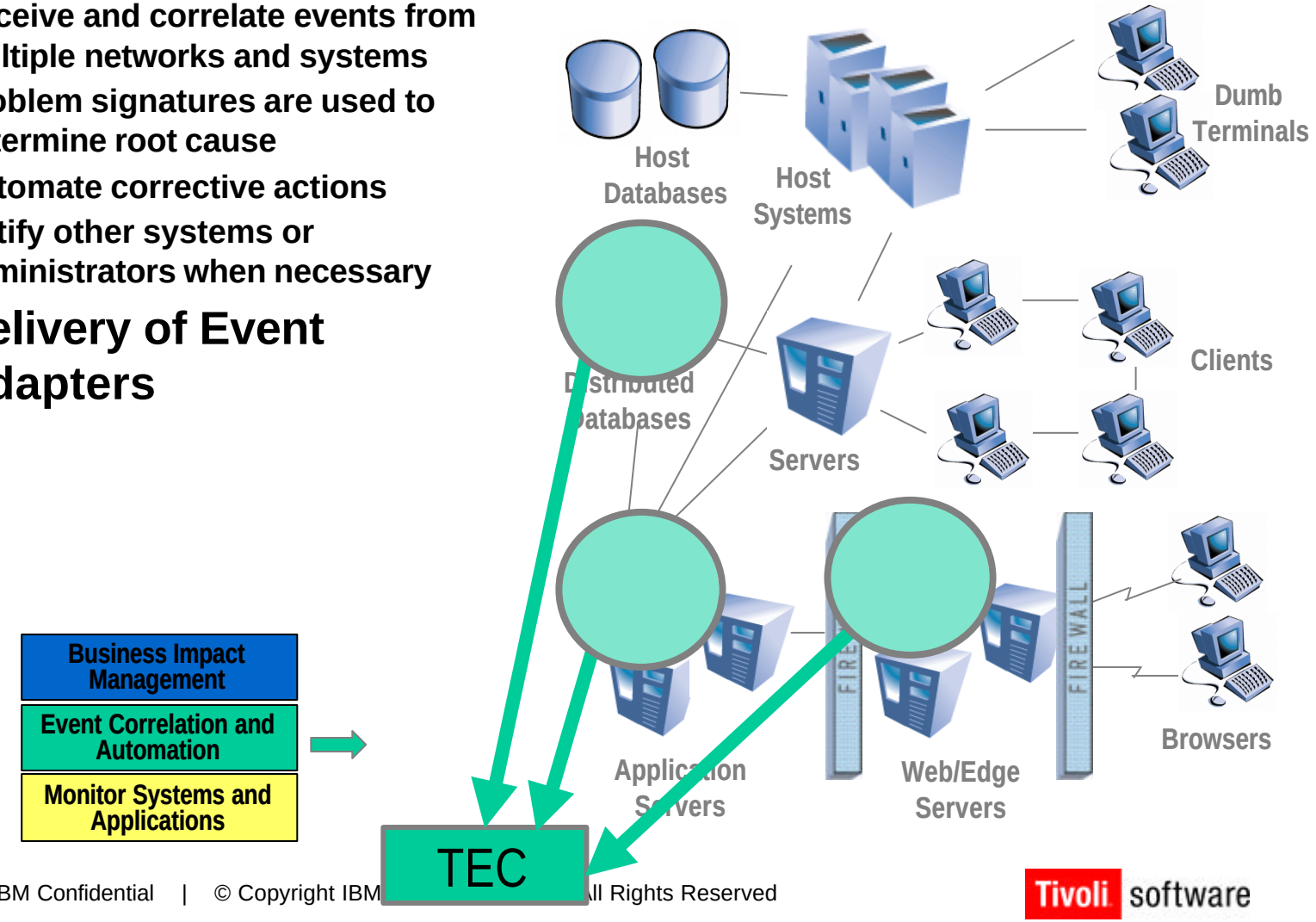
Event Correlation Focuses on Multiple Resources

- Receive and correlate events from multiple networks and systems
- Problem signatures are used to determine root cause
- Automate corrective actions
- Notify other systems or administrators when necessary
- **Delivery of Event Adapters**



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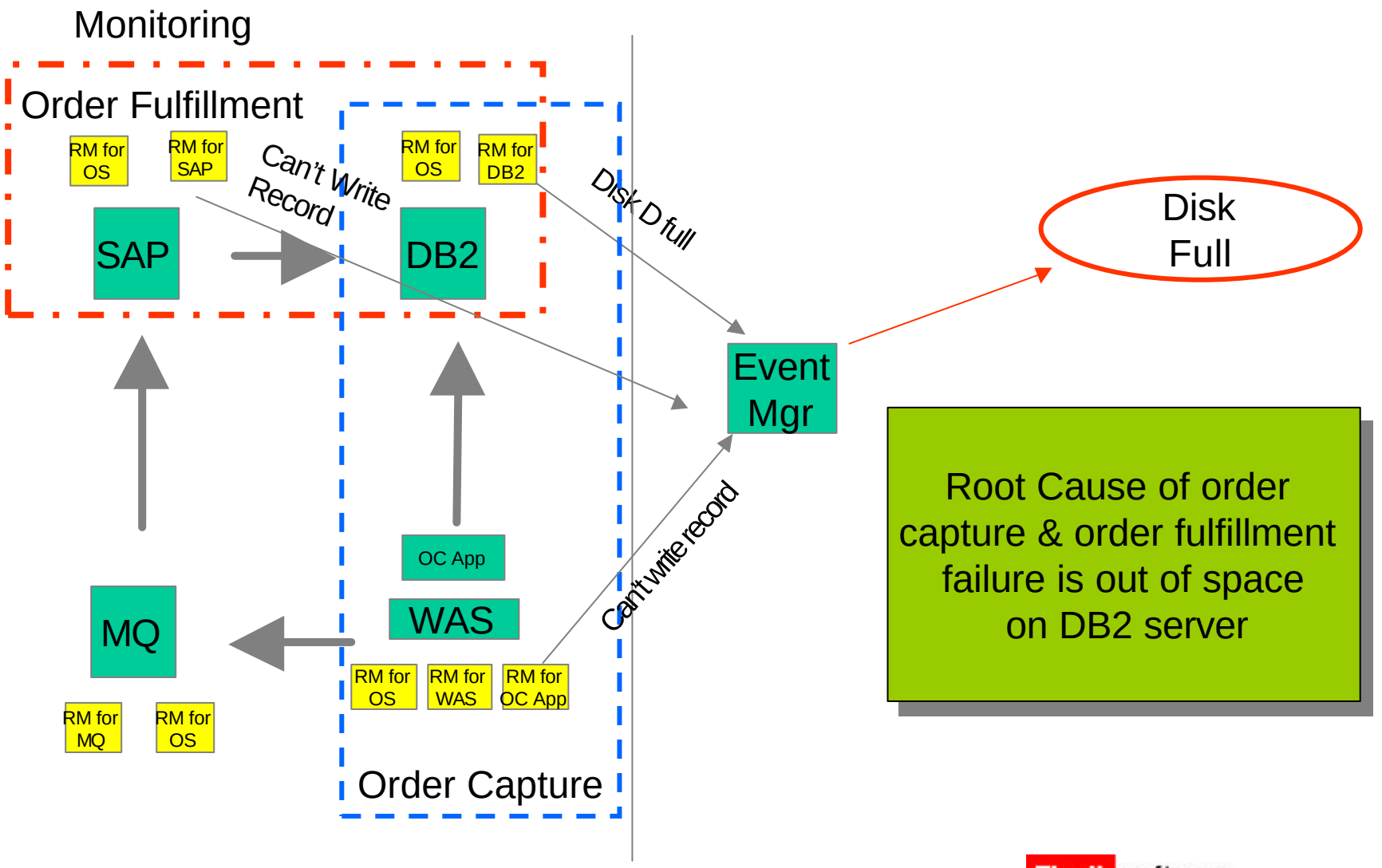
Event Correlation Example



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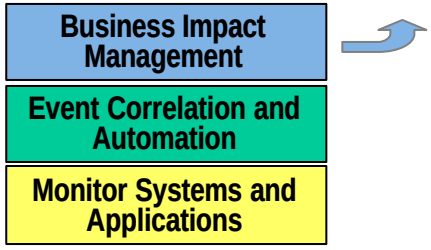
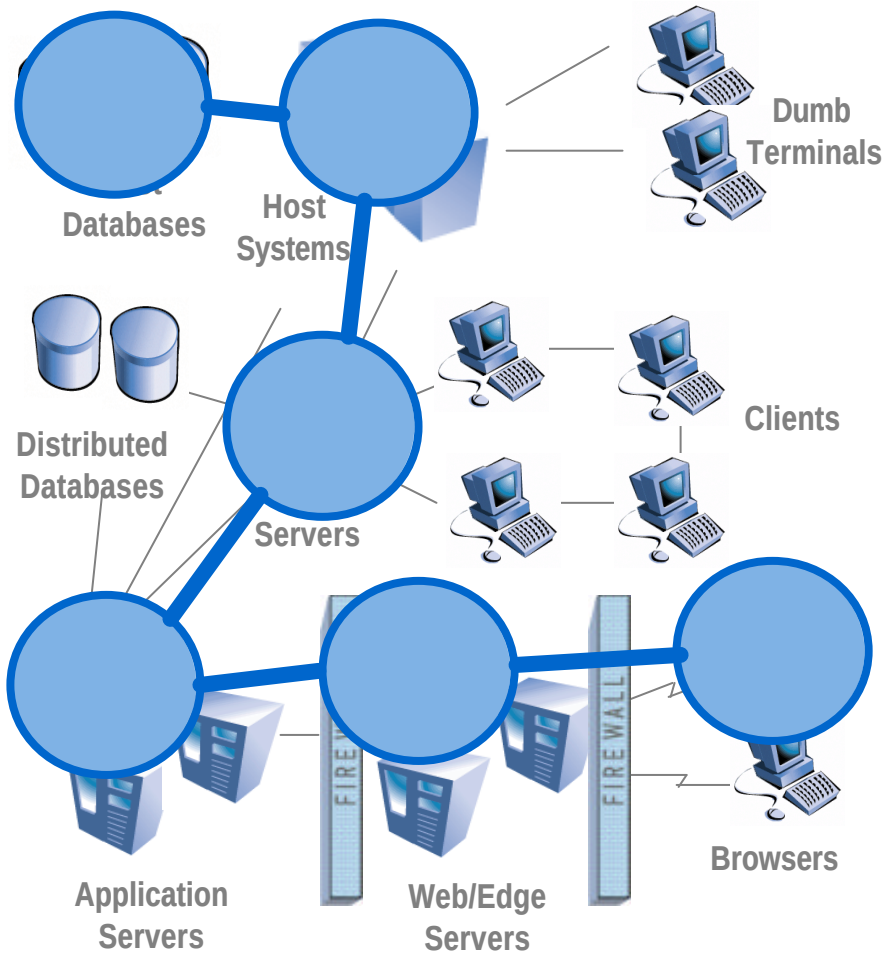
Business Impact Management

- Proactively determine the impact of events on the business
- View how business processes span the physical environment
- Verify end user service levels
- Analyze historical data and predict future service levels





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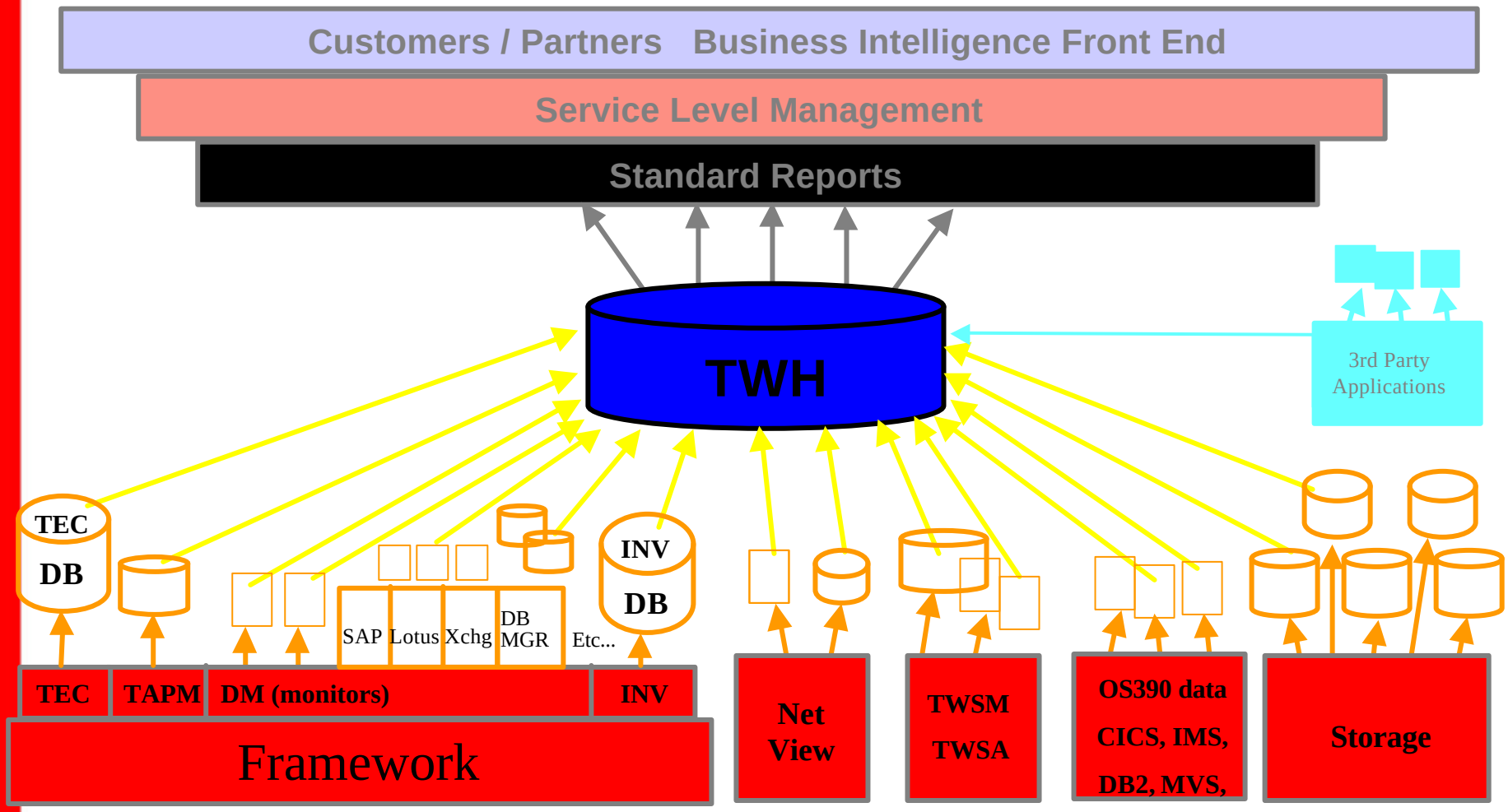
Reporting - Tivoli Warehouse



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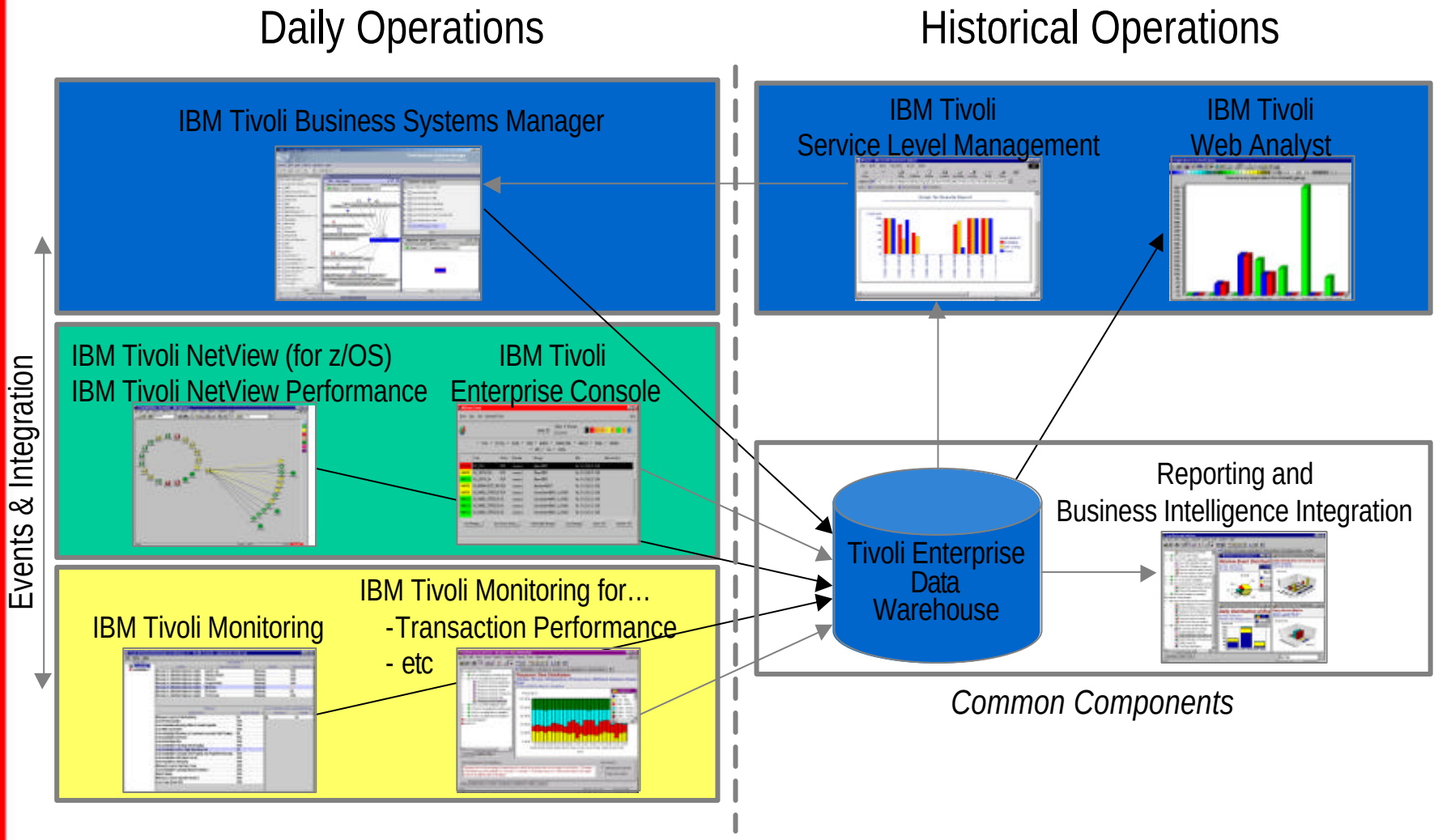
Performance & Availability – Getting the 'Big Picture'



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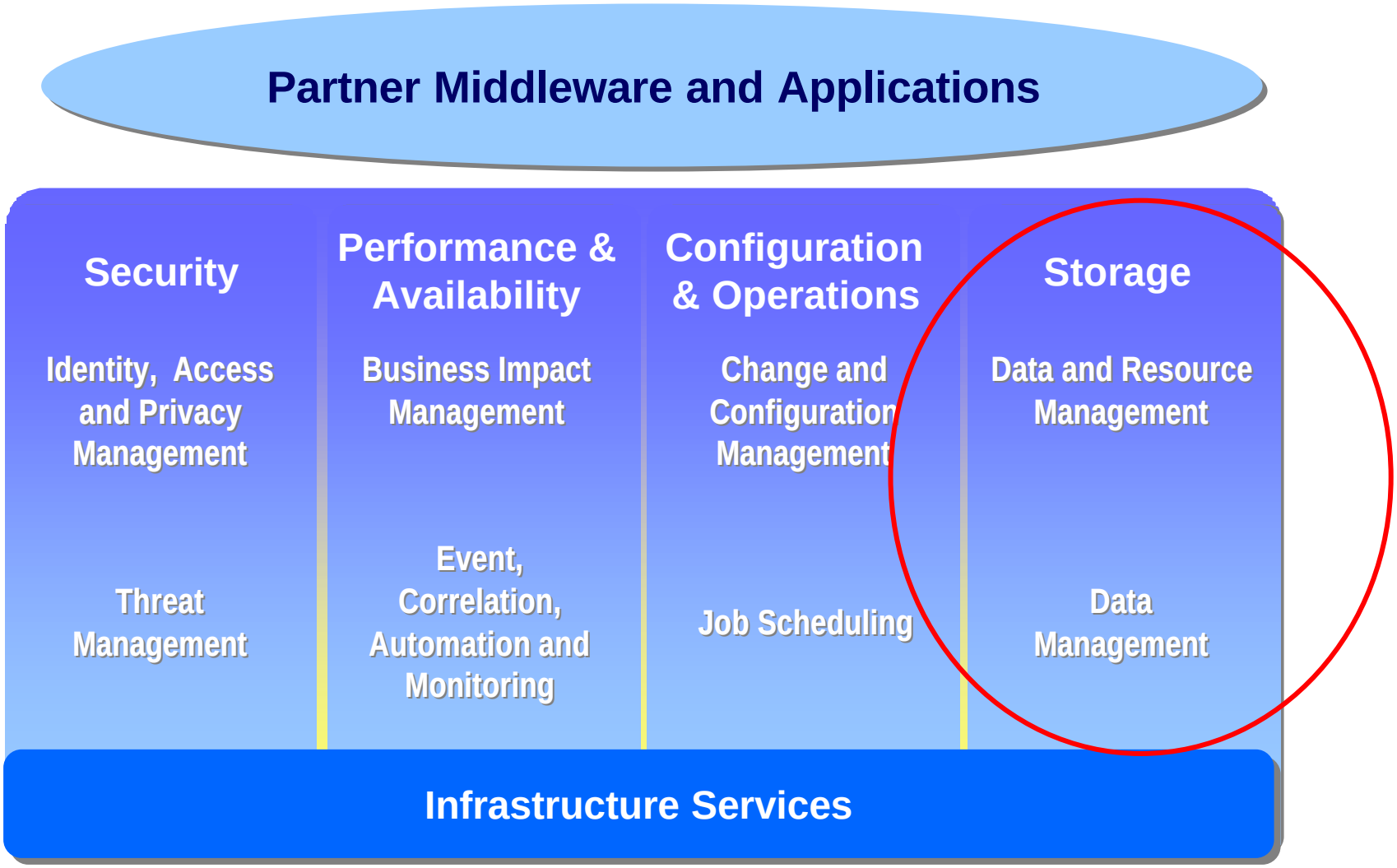
Storage



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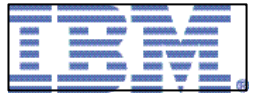
Storage Management Solutions



- **Storage Management**
  - **Backup, Archive, Space Management, Disaster Recovery**
- **Storage Resource Management**
  - **Systems Management of Storage Networks**
  - **Capacity, Asset, Availability, Event, Performance Management**
    - **Network Discovery**
    - **LUN Management (Host to LUN Mapping)**
    - **Policy Based File System Automation**
- **SAN File Sharing**
  - **Moving Big Files Fast over the SAN**
  - **Sharing SAN Storage Devices in SAN Environments**

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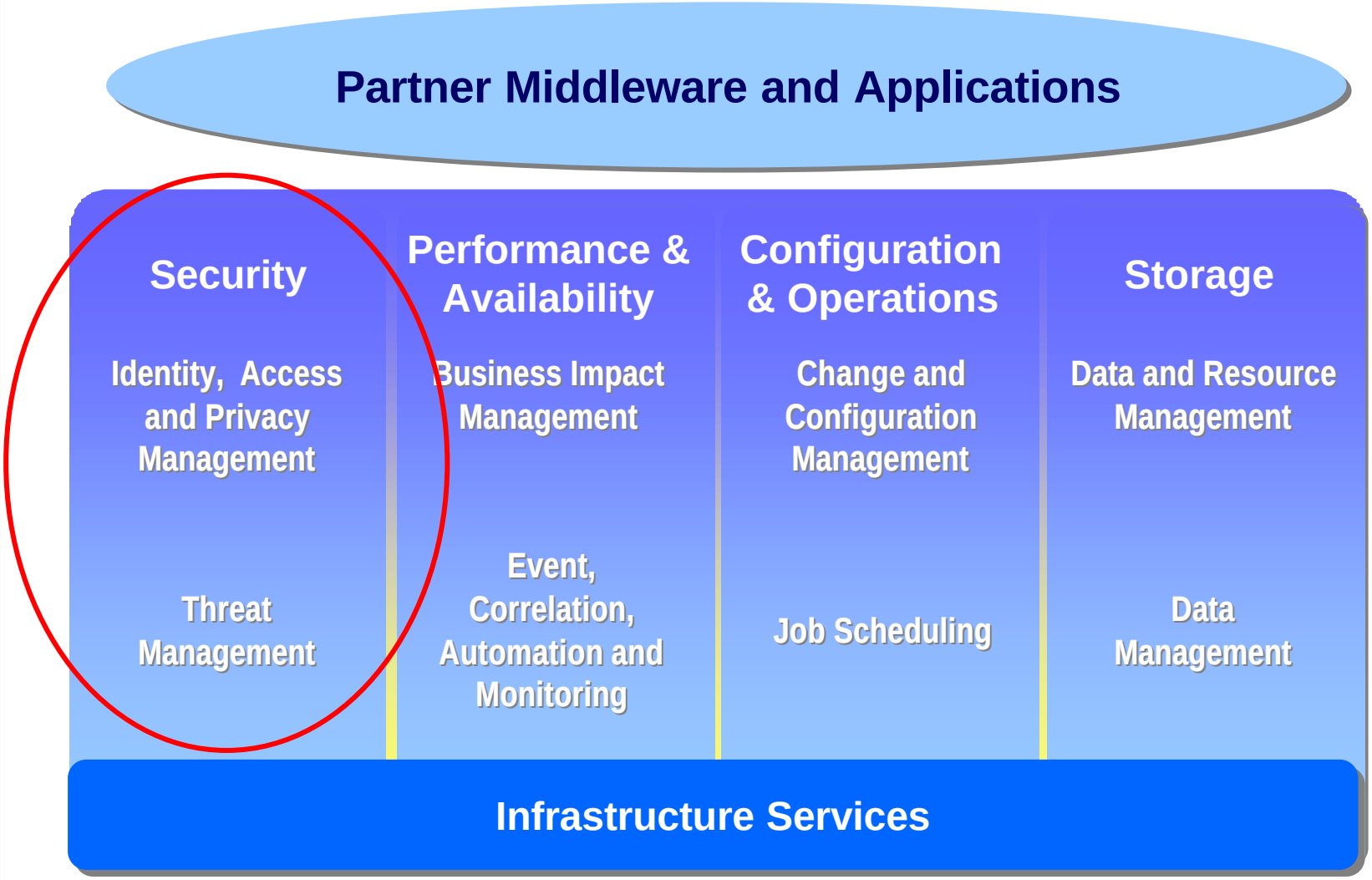
Security



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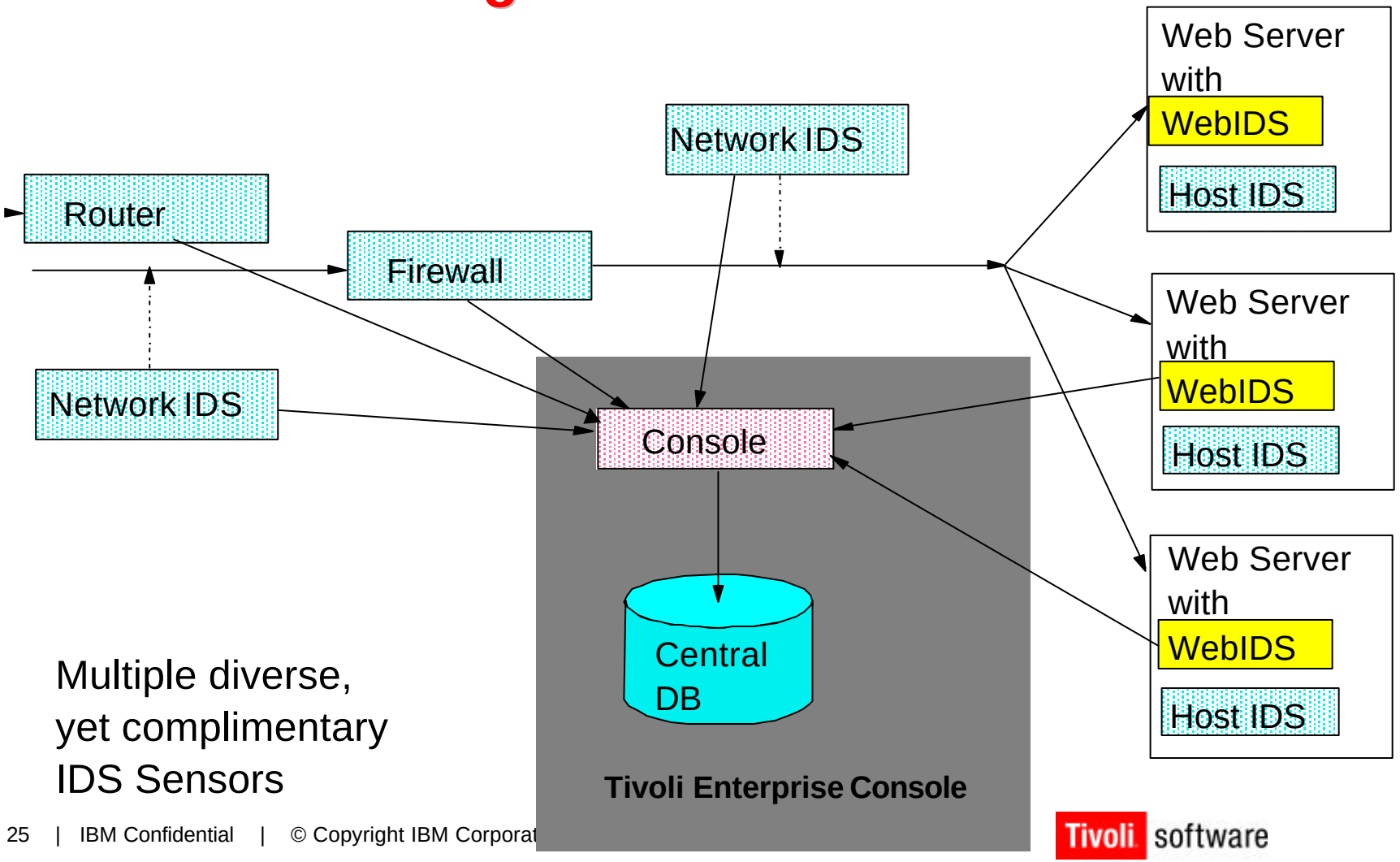
Tivoli Risk Manager



Multiple diverse, yet complimentary IDS Sensors

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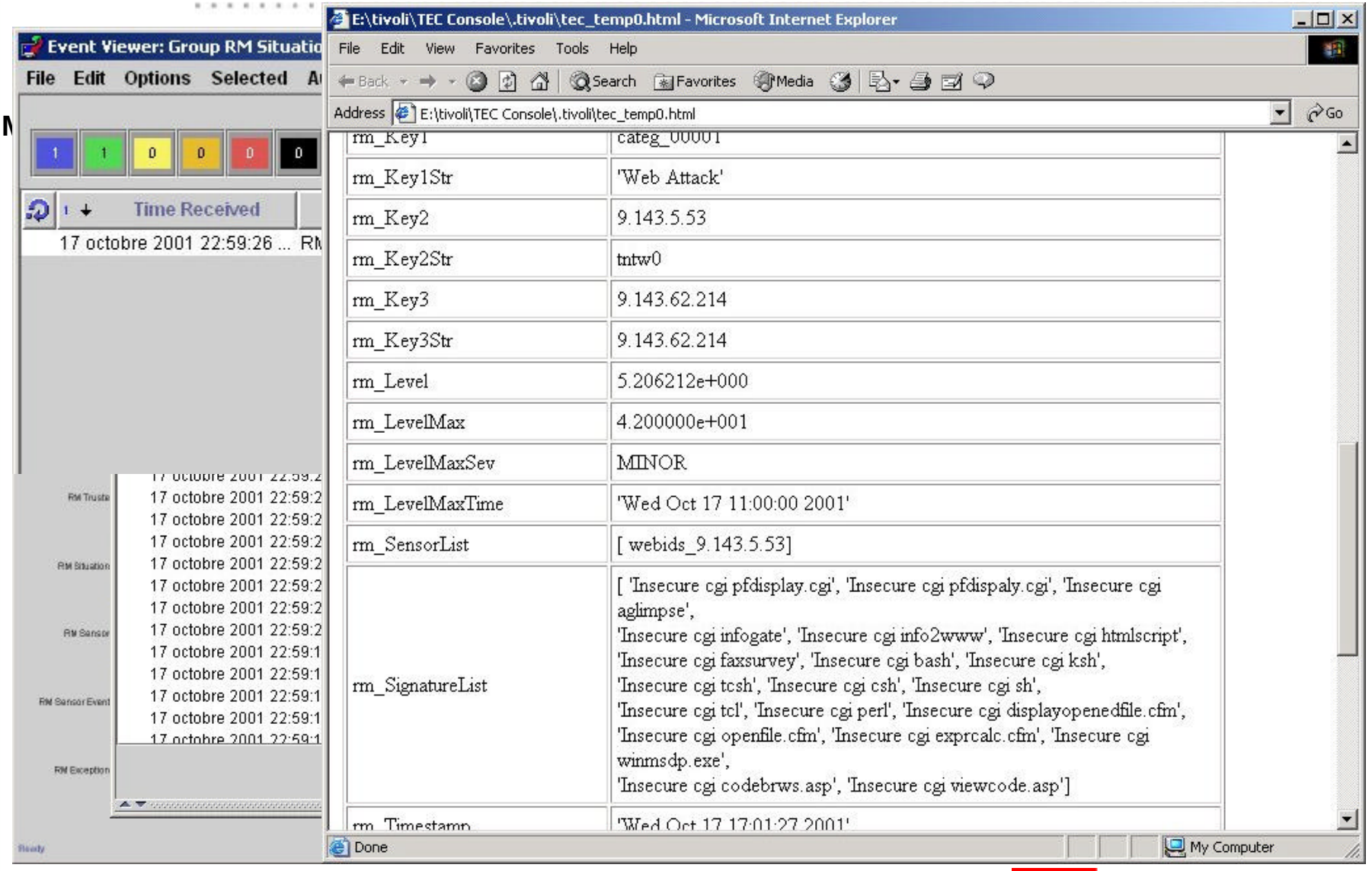
Threat Management in Action



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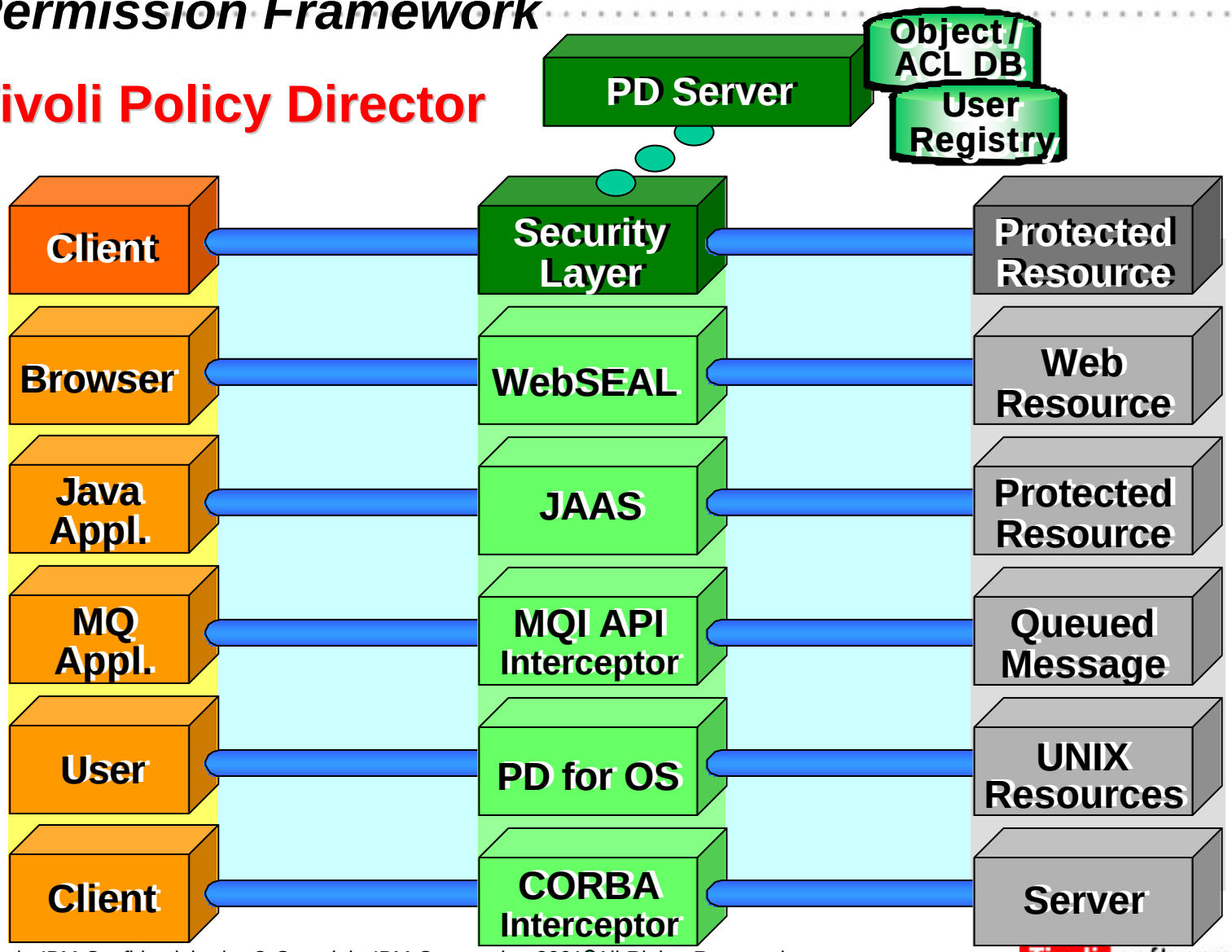
Access Management - Common Permission Framework

Tivoli Policy Director



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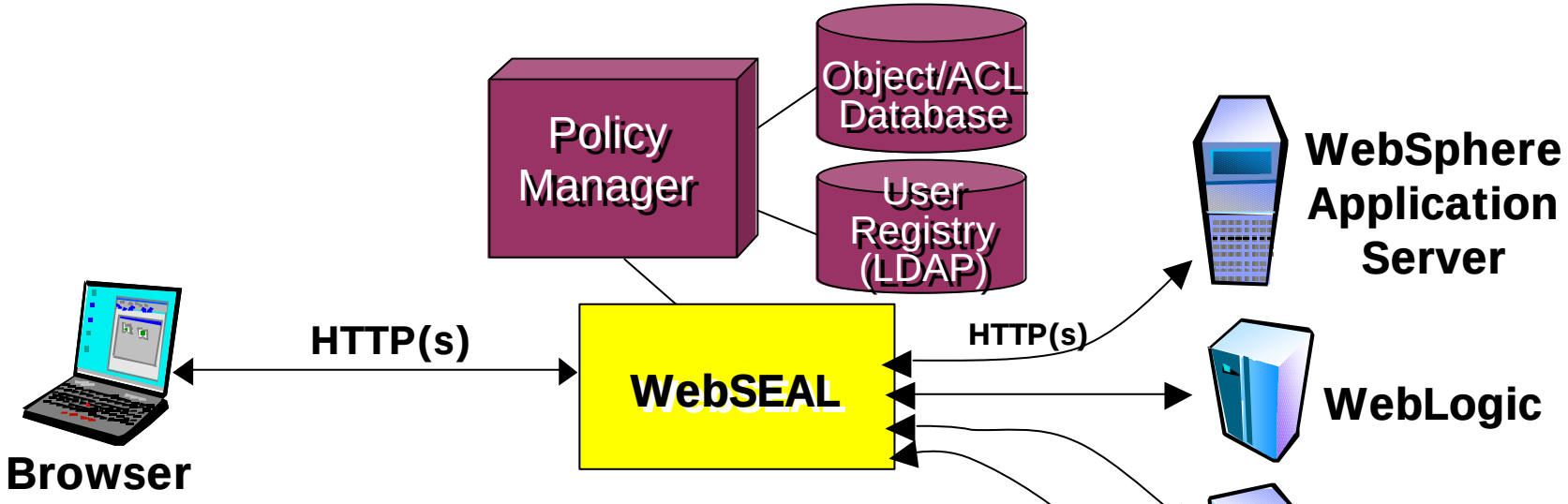
Tivoli Policy Director – Secure Web Access



WebSEAL passes to application:

- Nothing
- Credentials from Lock Box
- User & group info (iv_user/iv_groups)
- EPAC (iv_creds "Dossier")
- LTPA Cookie (WebSphere/Domino)
- Supplemental user information (Tag-value)
- Entitlements information (PD_Portal)

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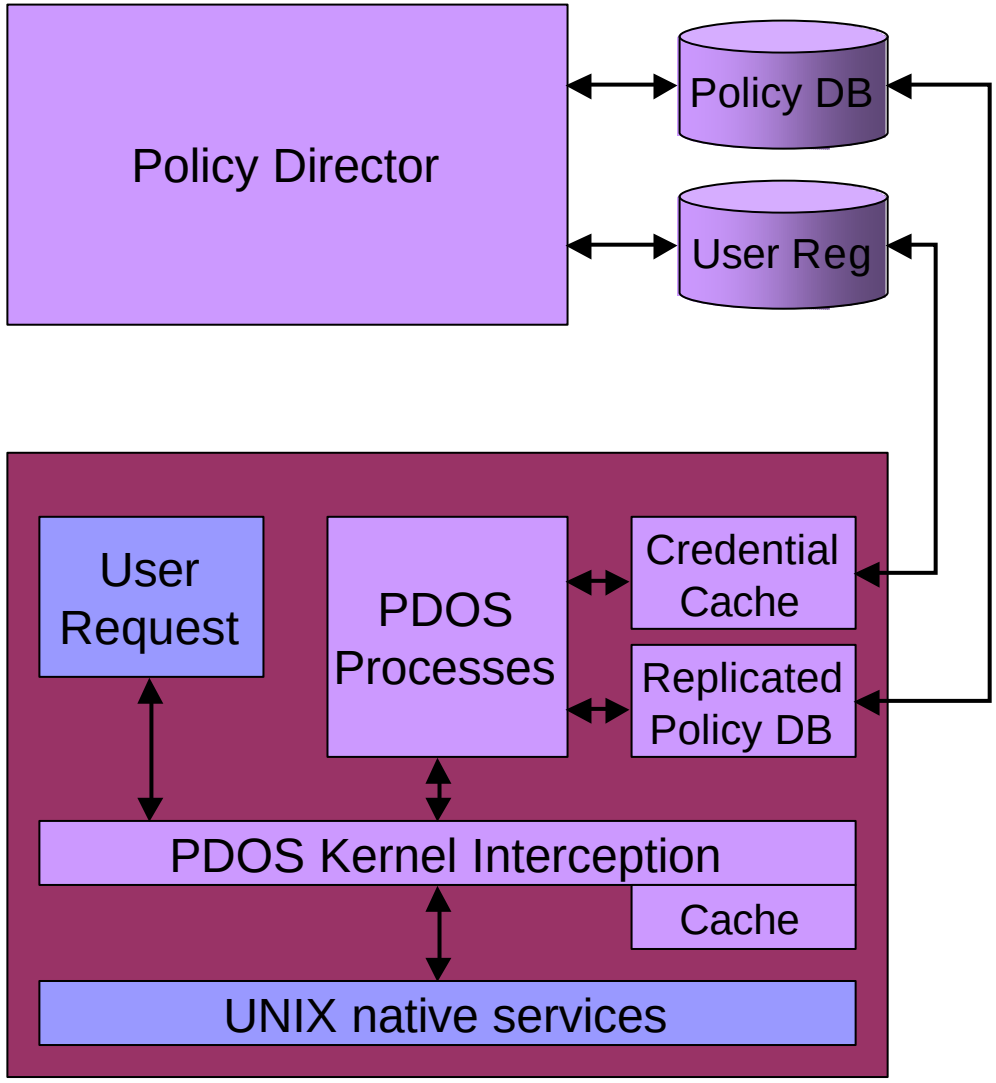
Tivoli Policy Director for Operating Systems



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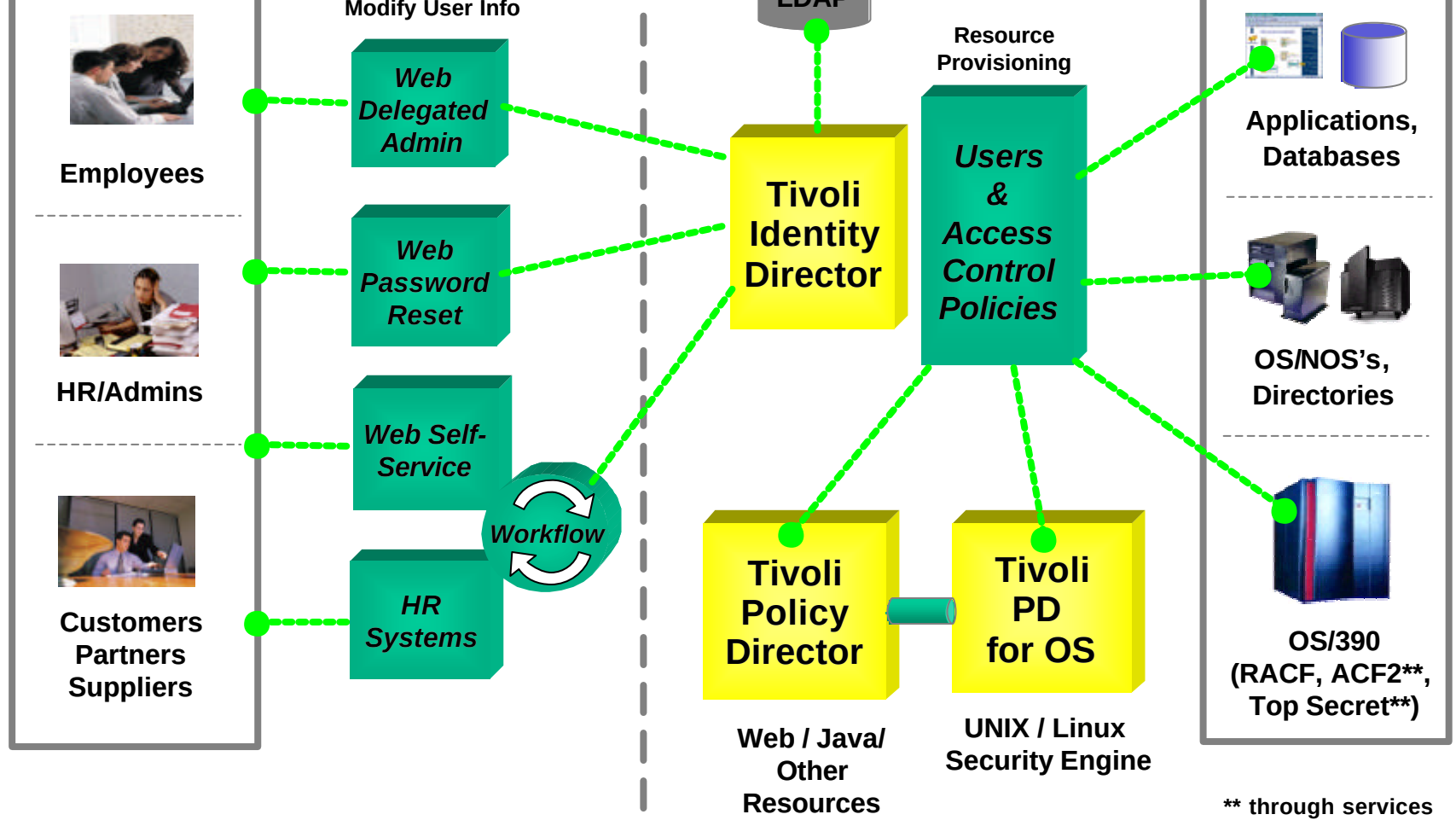
Identity Management



Summary

- **Tivoli** is IBM **Systems Management Software**
- **Config & Operations / Performance & Availability / Security / Storage**
- **Highly Integrated but Modular Approach**
  - **Enterprise Customers (Market Leader)**
  - **Small-and-Medium Business**
- **Cross-Platform vs. Multi-Platform Approach**
- **Proven Scalability**

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