

A Method for the Remote LAN Management

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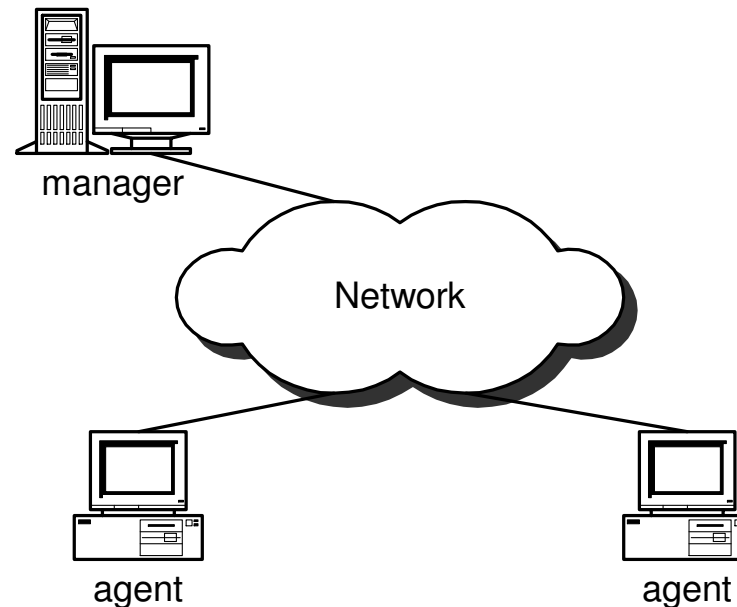
- ◆ Network management

- < NMS
- < NMA
- < NME

- ◆ SNMP protocol

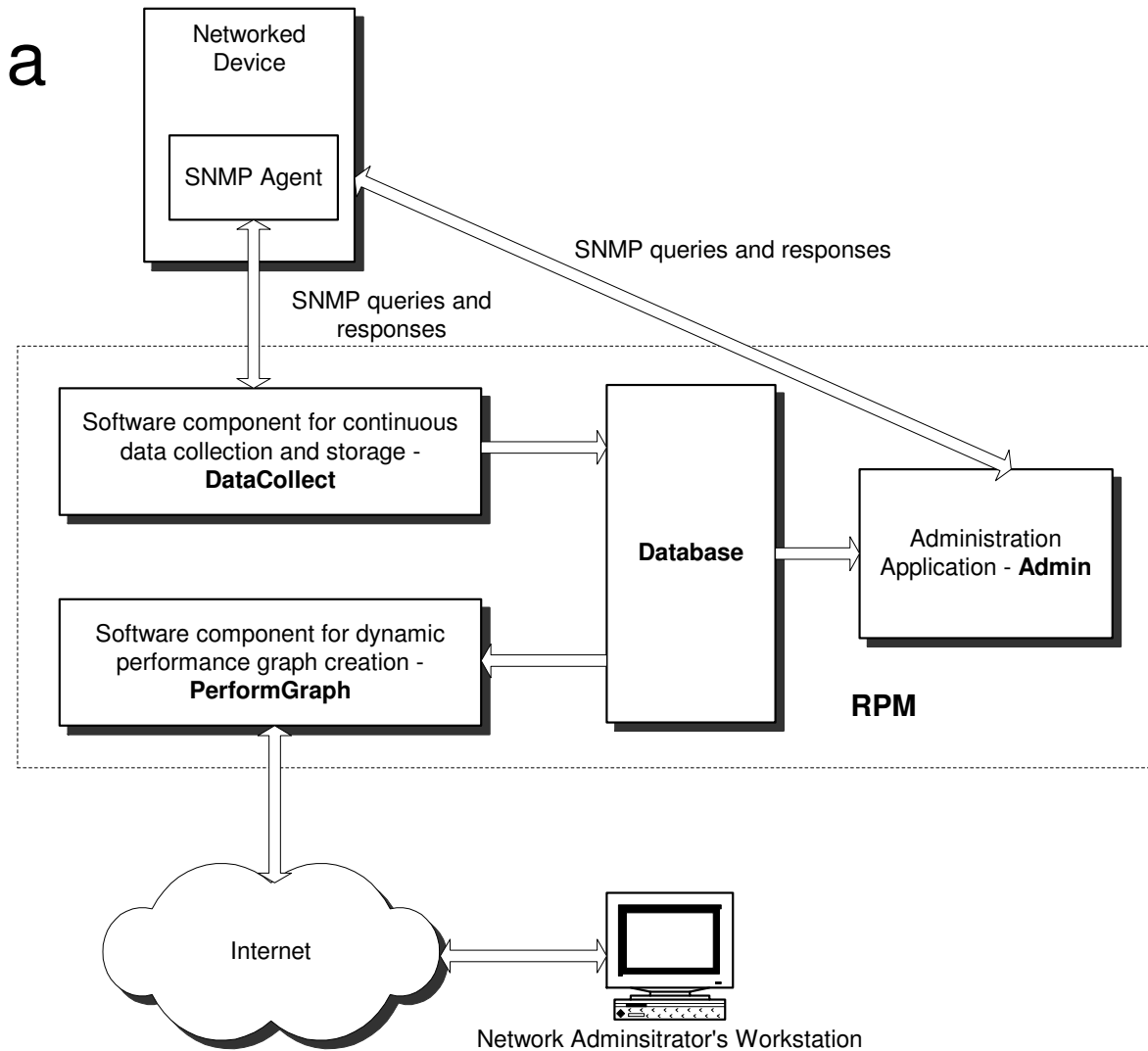
- < Command set
- < MIB

- ◆ NMS architecture – classical approach



Remote network monitoring

- ◆ New concept for a remote network monitoring
 - < solutions of a problems in classical remote network monitoring
 - < global data availability (via Internet)

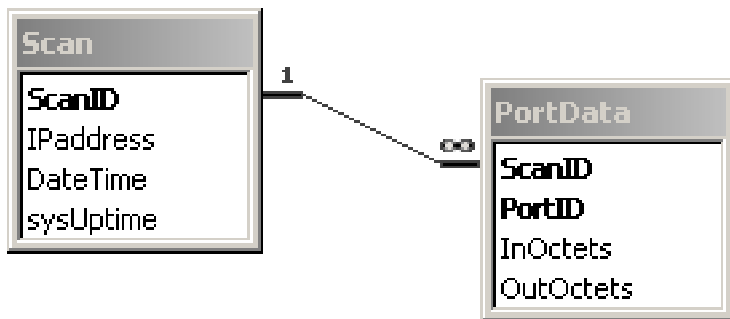


Component for data collection

- ◆ Continuous SNMP querying
 - < *GetRequest, GetNextRequest*
 - < *ifInOctets, ifOutOctets, sysUpTime*
 - < Query encapsulation
 - < Data storage

- ◆ Practical solution
 - < System service (daemon)

◆ Database organisation



◆ Example

ScanID	IPaddress	DateTime	sysUptime
391	213.149.32.1	23. 04. 02 00:36:34	217746184
392	213.149.32.1	23. 04. 02 00:36:49	217747684
393	213.149.32.1	23. 04. 02 00:37:04	217749184
394	213.149.32.1	23. 04. 02 00:37:19	217750684

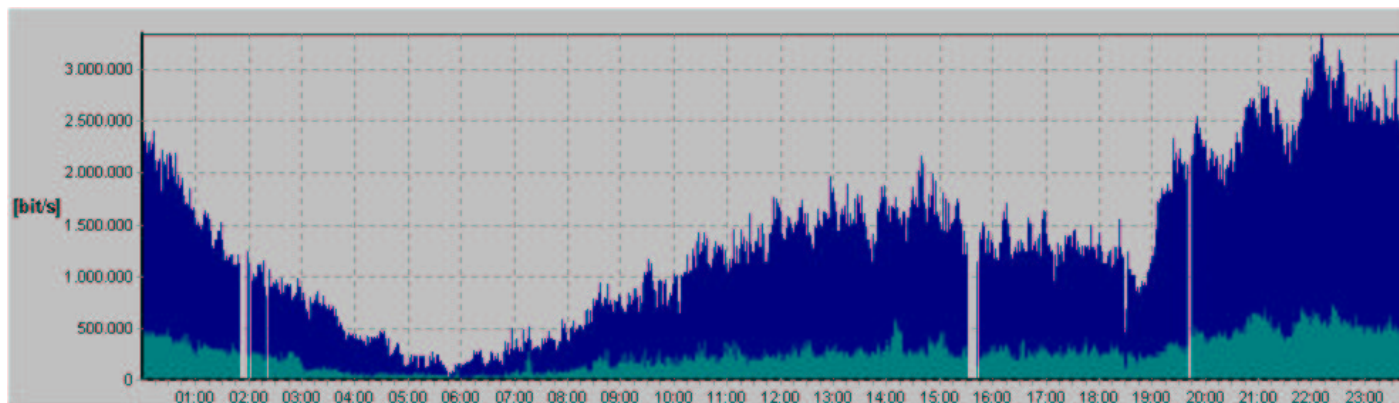
ScanID	PortID	InOctets	OutOctets
391	1	381798068	-2102937980
391	2	992965693	706101305
392	1	389300213	-2101005227
392	2	993611515	710444242
393	1	396786926	-2098848774
393	2	994251018	714897329
394	1	405232621	-2096421459
394	2	994905763	719763799

Administration application (1)

- ◆ Four components:
 - < graphical presentation of network device performances

$$InputRate = \frac{(ifInOctets_2 - ifInOctets_1) \cdot 8}{(sysUpTime_2 - sysUpTime_1) / 100} [bit / s]$$

$$OutputRate = \frac{(ifOutOctets_2 - ifOutOctets_1) \cdot 8}{(sysUpTime_2 - sysUpTime_1) / 100} [bit / s]$$

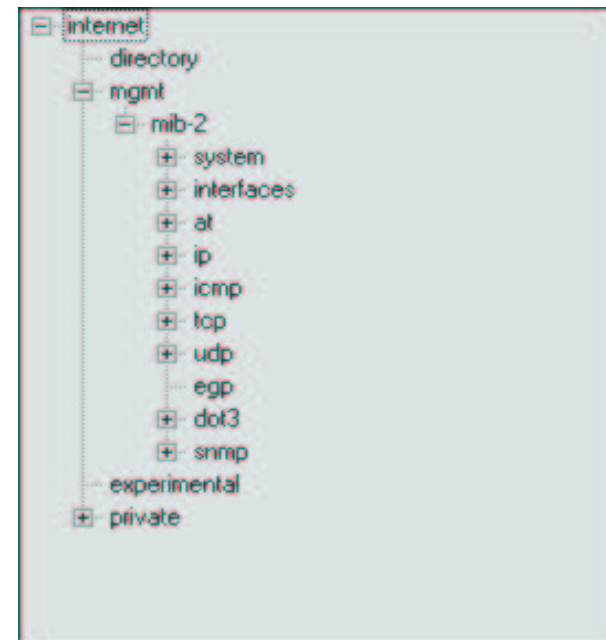


Administration application (2)

- < Graphical presentation of network device real-time performances
 - = Database independent
 - = SNMP querying capability

- < MIB Browser
 - = implementation of commands:
snmpget, snmpgetnext,
snmpwalk, snmpset,

- < Tool for configuration of the component for continuous monitoring of network devices





- ◆ DLL components for generating network performance graphs
 - < Server-side components
 - < Reports generating
 - = Network performance graphs for incoming and outgoing traffic
 - = Basic network traffic statistics
 - < Two components:
 - = 24 hours view
 - = 1 hour view

WWW application (2)

- ◆ Web interface
 - < User friendly
 - < GUI

