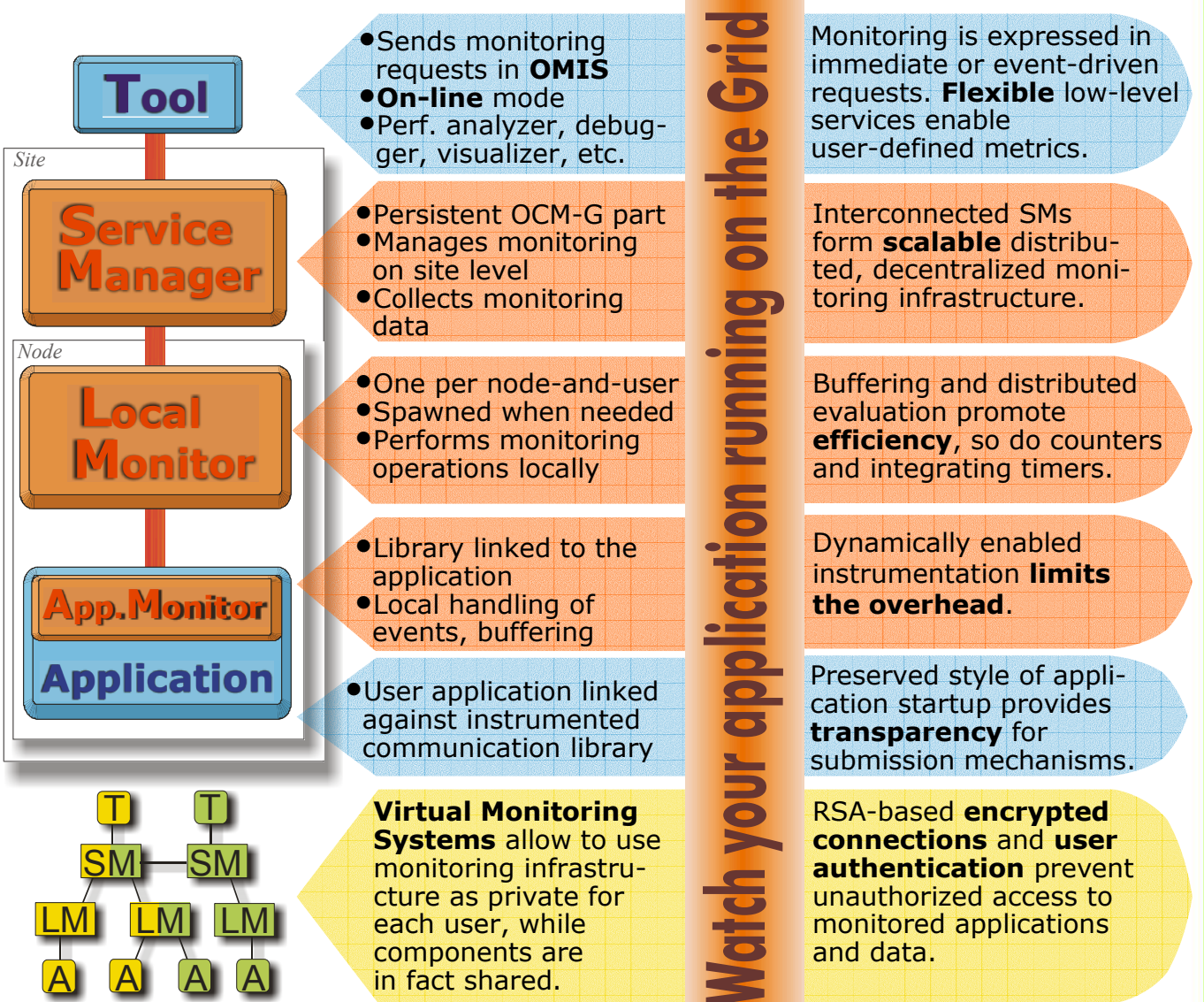# OMIS/OCM-G and Other Approaches to Monitoring Grid Applications

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OCM-G – monitoring interactive Grid applications

Tool
- Sends monitoring requests in **OMIS**
- **On-line** mode
- Perf. analyzer, debugger, visualizer, etc.

Monitoring is expressed in immediate or event-driven requests. **Flexible** low-level services enable user-defined metrics.

Site

Service Manager
- Persistent OCM-G part
- Manages monitoring on site level
- Collects monitoring data

Interconnected SMs form **scalable** distributed, decentralized monitoring infrastructure.

Node

Local Monitor
- One per node-and-user
- Spawned when needed
- Performs monitoring operations locally

Buffering and distributed evaluation promote **efficiency**, so do counters and integrating timers.

App. Monitor
- Library linked to the application
- Local handling of events, buffering

Dynamically enabled instrumentation **limits the overhead**.

Application
- User application linked against instrumented communication library

Preserved style of application startup provides **transparency** for submission mechanisms.

T   T
SM   SM
LM   LM   LM
A   A   A   A

Virtual Monitoring Systems allow to use monitoring infrastructure as private for each user, while components are in fact shared.

RSA-based **encrypted connections** and **user authentication** prevent unauthorized access to monitored applications and data.

Watch your application running on the Grid

Other approaches – differences to OMIS/OCM-G

GRM / DataGrid
- Focus on batch processing
- Based on traces
- Overhead too high for interactive apps (R-GMA)

Autopilot / GRADS
- Automatic performance steering instead of feedback to the user

Mercury / GRIDLAB
- Based on traces
- Fixed metrics

CYFRONET

RR TUM

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