



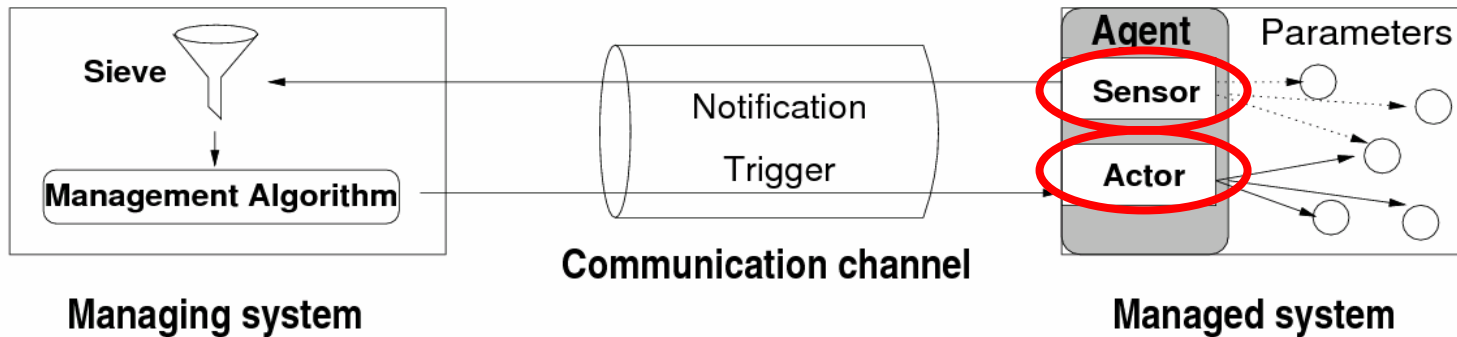
IBM Global Technology Services

Panel #3: Can Management Systems be trusted?

Alexander Keller, alexk@us.ibm.com
IBM Global Technology Services
New York, NY, USA

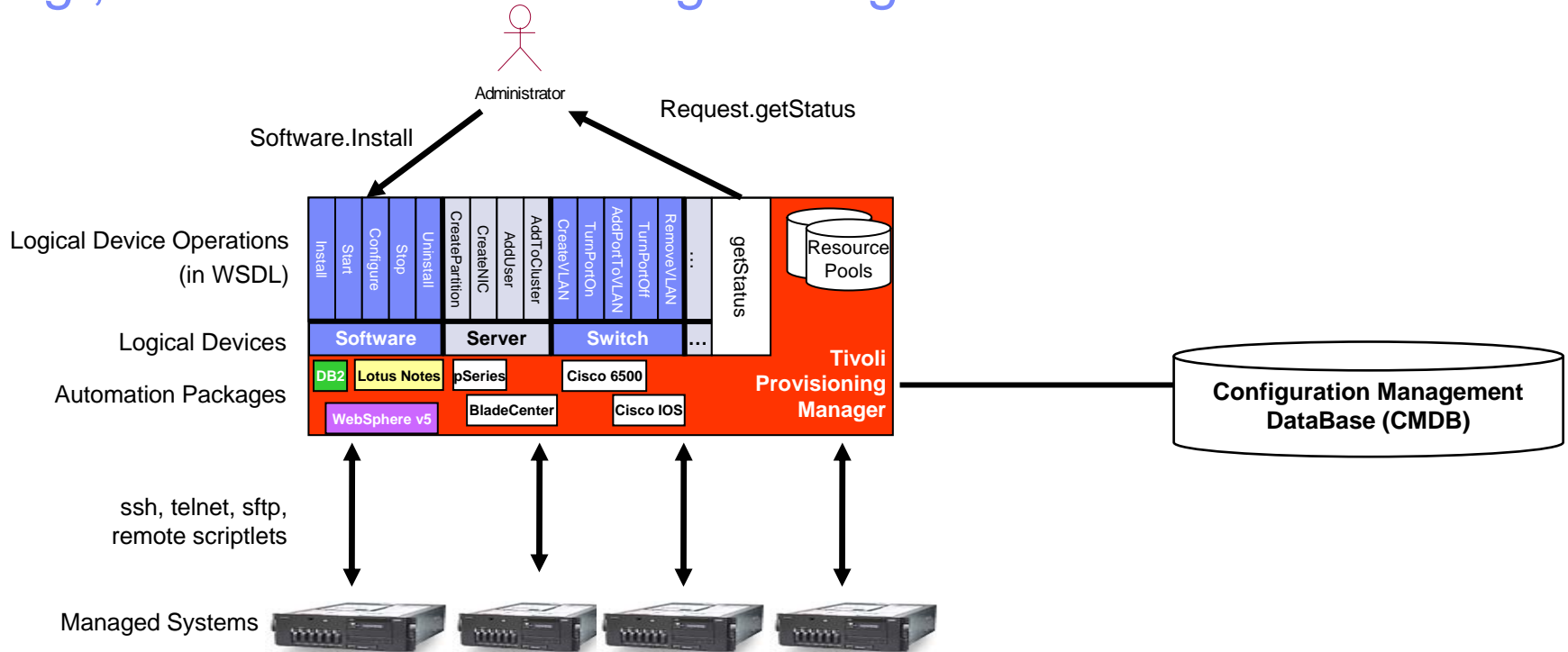


Manager/Agent Paradigm



- **“Smart” management system executes control/feedback loop**
 - Interacts with “dumb” managed resources
 - If sub-optimal, configures them so that global optimum is achieved
- **Requires common understanding (standardization) between Manager/Agent re: Sensors/Actuators, e.g., through Information Model**
- **Despite a lot of effort, this has not happened in the general case**
 - SNMP, TMN, CIM, JSR-77, the list goes on
 - Some vendors stick to it, others not
- **Putting one (or more) Agent(s) on a system introduces additional issues**
 - Memory leaks, security issues, etc.
- **The Manager/Agent paradigm has quietly melted away: Autonomic vs. white box systems**

Agentless, white box Systems: e.g., IBM Tivoli Provisioning Manager 5.1



- **Implement a set of Automation Packages in scripting Language (Jython + XPath queries) for a variety of managed systems**
 - Embed remote scriptlets (PERL, Python, bash, WSH)
 - Management system becomes an extensible special-purpose virtual machine
- **Serve as examples for custom-built automation packages**
 - Built by Administrators (or consultants)
- **The same concept applies to the monitoring part (e.g., Discovery Sensors)**

Trust vs. Quality / Risk

- **Trust is qualitative (yes/no) and not an appropriate measure**
 - You need to have a Measurement Program in place first!
- **Need to focus on quantitative data → search for inspiration in other areas**
 - Variability / Quality (Six Sigma),
 - Risk (Basel-2): How much risk are you willing to take?
- **First steps in this direction: Complexity Benchmarks**
 - IM 2007 paper by Diao et al.
 - Document and Codify IT Service Management Processes (ITIL v3, ITUP)
 - Measure Complexity of as-is solution,
 - Build quantitative model,
 - Estimate Time and Cost of to-be solution
- **MUCH work needed to extend this work to Quality**
 - Goal of overall Measurement Program is little or no variation in results to ensure predictability
 - This implies buy-in from all stakeholders to the proper set of metrics
- **We are just at the beginning of this journey!**

Vision: Process Modeling Quality Plug-In

