

OutSys

Hardcoded Quality

AtomOS



OutSys delivers innovative carrier-grade solutions and services to implement, simplify, and speed up the integration, provisioning, management, and testing processes in the Broadband Service Providers Networks and their Information Technology Systems

Active Member of the Broadband-Forum



Solution

**AtomOS
TR-069 ACS
Test-O-Matic
Solution**



**AtomOS is part of the
CPE, IP Devices, and
Network Services
Laboratory Testing
Solutions Portfolio**



Introduction

AtomOS measures and assesses the performances, resilience and reliability of a TR-069 ACS Service under a configurable continuous heavy workload



ACS Service Architecture

**A TR-069 ACS Service is
a complex, multi-layered,
multi-tier system composed of
front-ends, back-ends, buses,
and databases**



Testing Methodology

End-to-End heavy load testing is the only effective methodology to find out the actual performances, bottlenecks, resource pool leaks and weak links of the service, and of all its subsystems

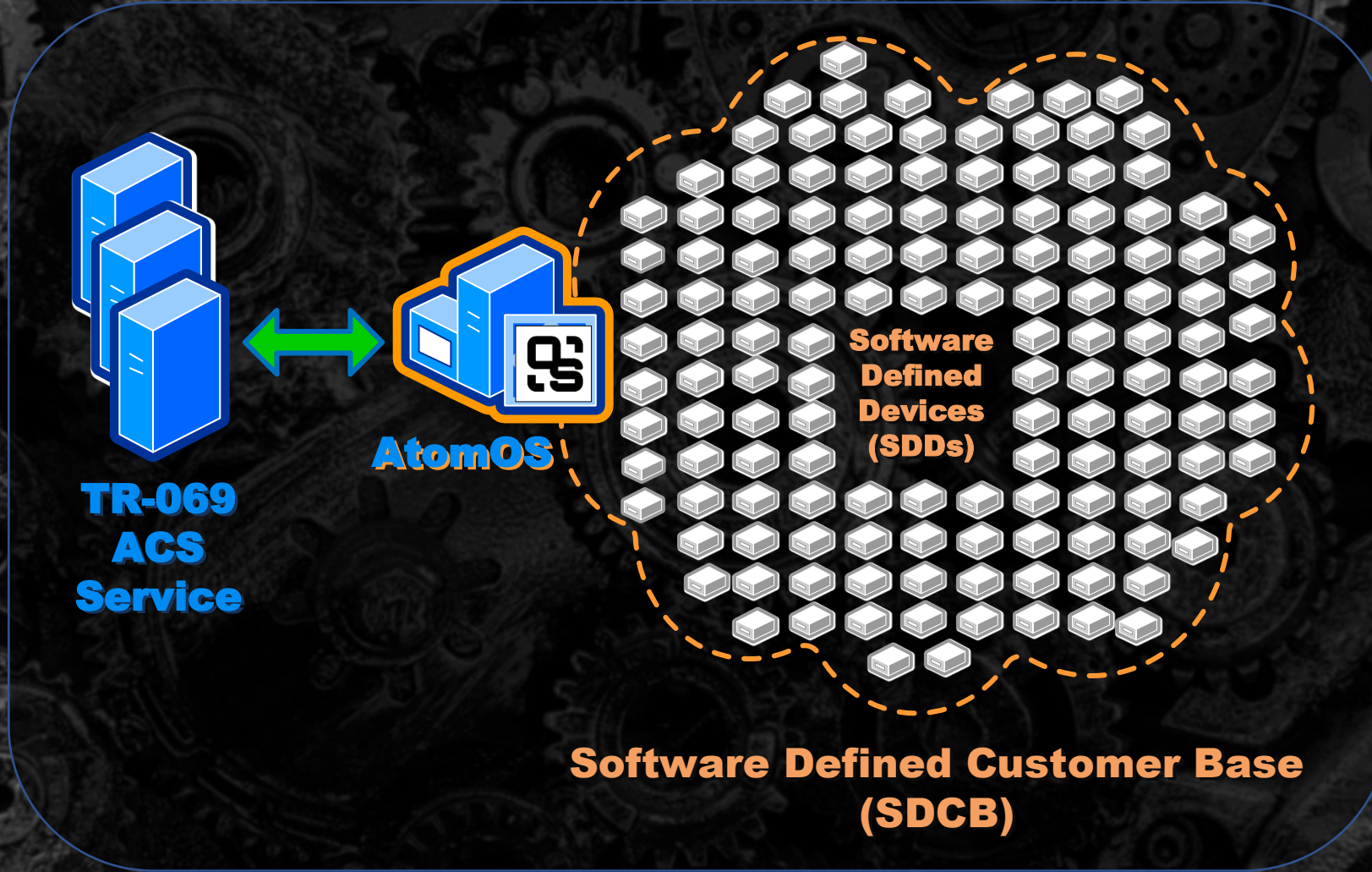


AtomOS Architecture

**To deliver such testing methodology,
AtomOS implements a Software
Defined Customer Base (SDCB)
composed of TR-069 Software
Defined Devices (SDDs)**



HLD Diagram





SDCB Composition

An SDCB can be composed of millions of heterogeneous SDDs of different types, technologies, vendors, models, and firmware releases



SDD Architecture

Each SDD has a stateful TR-069 stack and is capable of issuing messages to the TR-069 ACS Service, and replying to its requests



SDCB/SDD Configurations

The SDCB activity can be fine-tuned to control its growth rate, the frequencies of boots, bootstraps, periodic messages, simulated network disruptions, devices failures, and their power cycles



Uses and Benefits 1/3

**Assessing the actual performances,
resilience, and reliability of a TR-069
ACS Service and its subsystems**

**Fine-Tuning of the TR-069 ACS
Service and of all its subsystems**



Uses and Benefits 2/3

Supporting capacity planning for the device population growth and its optimal sustainability

Simulating and analyzing the actual effects of overloads, unexpected or due to massive device update campaigns



Uses and Benefits 3/3

Comparing the performances and behaviors of different TR-069 ACS Service products, configurations, types, or releases



**Highly Configurable and Tunable:
Heterogeneous customer base, rate
of its growth, frequencies and type
of events, messages, failures, etc.**



Replicable:

The same testing scenario can be exactly repeated to evaluate the effects of fixes, changes, and tuning applied on the TR-069 ACS Service



Fully Automated:

Once configured, the test can run 24/7 without manual intervention



Evolutions

**TR-369
User Service Platform (USP)
support is in progress**



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Thank You

