

Cutting costs by metering engineering applications usage: a real life success story in the aerospace industry

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MEETINGS TORINO



Managing Software Costs

- Open iT, Polimatica and Aviogroup
- Aviogroup Requirements
- The solution
 - ✓ Phase 1
 - ✓ Phase 2
 - ✓ Results
 - ✓ Next steps
- Conclusions

Open iT

- Mission:
 - ✓ Enable companies to optimize their IT resources.
- Leading worldwide vendor of enterprise IT resource usage metering and optimization solutions:
 - ✓ LICENSEAnalyzer®
 - ✓ LICENSEOptimizer®
 - ✓ SYSTEMAnalyzer®
- Visit us on the web: www.openit.com

Open iT – Key Figures

- Worldwide presence:
 - ✓ USA – Huston, TX
 - ✓ Europe – UK, Germany, Norway
 - ✓ Far East – Philippines
- Reference markets
 - ✓ Oil & Gas
 - ✓ Aerospace, Automotive, Hi-Tech Engineering, EDA
- Serving most of the Fortune 500 companies

Polimatica

- An ITC solution provider and consulting company founded in 1982
- Active in the following IT market areas:
 - ✓ IT Security & Business Continuity
 - ✓ Cost Reduction on IT infrastructure and IT asset
 - ✓ PDM/PLM & Content Management Systems
 - ✓ Supply Chain Management and Execution
 - ✓ Turn Key Custom Projects & Developments on Embedded and Real Time Systems

Polimatica - Key Figures

- Turnover:
 - ✓ 3,8 M€ (2008 Fiscal Year)
- People:
 - ✓ 58 Highly skilled engineers and professionals
- Partnerships:
 - ✓ Strong relationships with all market leaders in the relevant ITC industries
- Visit our website: www.polimatica.it

Aviogroup Business Activities

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CIVIL

Modules and Components
for civil aviation aeroengines
& aeroderivative engines

MILITARY

Complete propulsion systems
and services

SPACE

Space propulsion & LEO Launchers
(solid & liquid)

**CIVIL
MR&O**

Civil aeroengine
MR&O



GENx

EJ200



Maintenance



Vega

Aviogroup

The companies

Subsidiaries

- Regulus 60%
- ELV 70%
- Avio Inc. 100%
- Avio Polska 100%
- Secosvim 100%
- DutchAero 80%
- AvioFix 86.9%
- Getti Speciali 100%
- DutchAero Services B.V 80%
- Polonia AeroeLaboratory Sp.zo.o. 59%



- Europropulsion 50%
- ATLA 30%
- Eurojet 21%
- Turbo Union 20%
- Arianespace 8%
- Cira 5.30%

Aviogroup Worldwide Locations

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7 in Italy: Turin (3), Colleferro (Rome), Brindisi,
Pomigliano d'Arco (Naples), Acerra

2 in South America: (French Guyana)

1 in the Netherlands: (Eindhoven)

1 in Poland: (Bielsko-Biala)

Aviogroup Locations in Italy

Rivalta di Torino (Turin)

Covered area m²163.000
1765 people

Mechanical Transmissions
Rotating Parts

Sangone (Turin)

Covered area m²12.200
94 people

Development Testing:
Engine, components

Getti Speciali Borgaretto (Turin)

Covered area m² 22.000 – 226 people

Casts for aeronautical
components

Colleferro (Rome)

Covered area m²157.918 470 people

Space Solid Propulsion

Brindisi

Covered area m²48.403 642 people

Military engine assembly
Military MRO, Naval Package

Pomigliano d'Arco (Naples)

Covered area m²84.418 – 772 people

Combustors, Structural Parts
Civil MRO

Acerra (Naples)

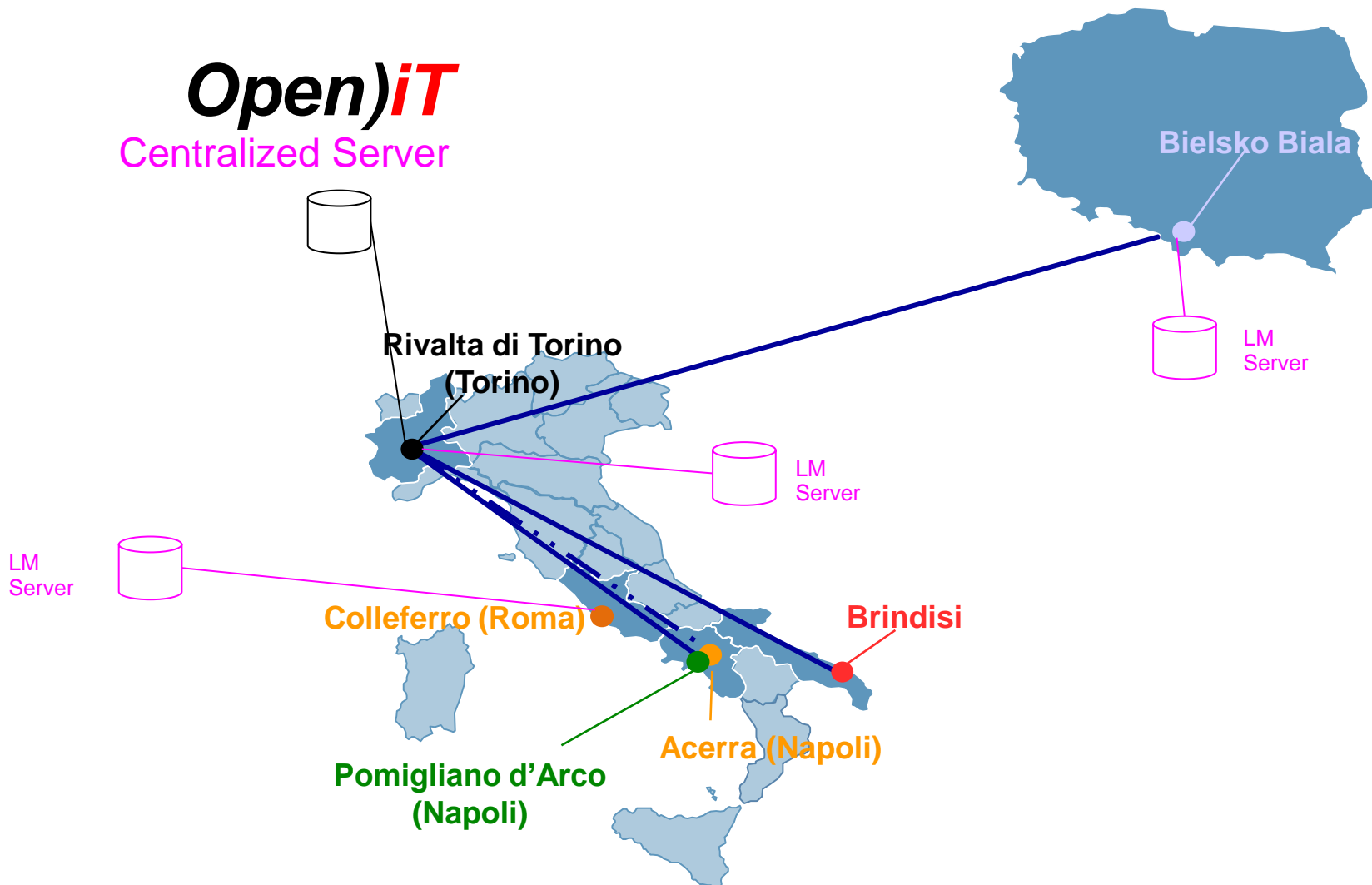
Covered area m²36.309 – 362 people

Airfoils

Aviogroup Requirements

- Key priority
 - ✓ Getting actual data on SW resources usage was becoming essential and "in-house" or existing commercial solutions were not holding up to cost and feature constraints
- The starting point
 - ✓ We were looking for a supported product working with multiple License Manager vendors
 - ✓ We needed flexible and powerful analysis capabilities
 - ✓ Our target was to implement optimization strategies

Aviogroup Engineering IT infrastructure



Aviogroup Engineering SW Portfolio

Application	License Server
Simlab	FlexLM
CFX	FlexLM
AmathLab	FlexLM
Fieldview	FlexLM
Flowmaster	FlexLM
Euclid3	FlexLM
Autodesk	FlexLM
Numeca	FlexLM
MathCad	FlexLM
HyperMesh	FlexLM
Siemens UGS	FlexLM
CATIA/Smarteam	LUM

The solution

- After evaluating the alternatives we:
 - ✓ Selected the Open iT platform
 - ✓ Enrolled Polimatica for helping in the project
- The project:
 - ✓ License Managers (FlexLM, LUM & Sentinel) were instrumented with the *LICENSEAnalyzer*[®]
 - ✓ Workstations and Pcs were instrumented with *LICENSEOptimizer*[®] and *SYSTEMAnalyzer*[®]
 - ✓ A single, centralized, database started to log all the data

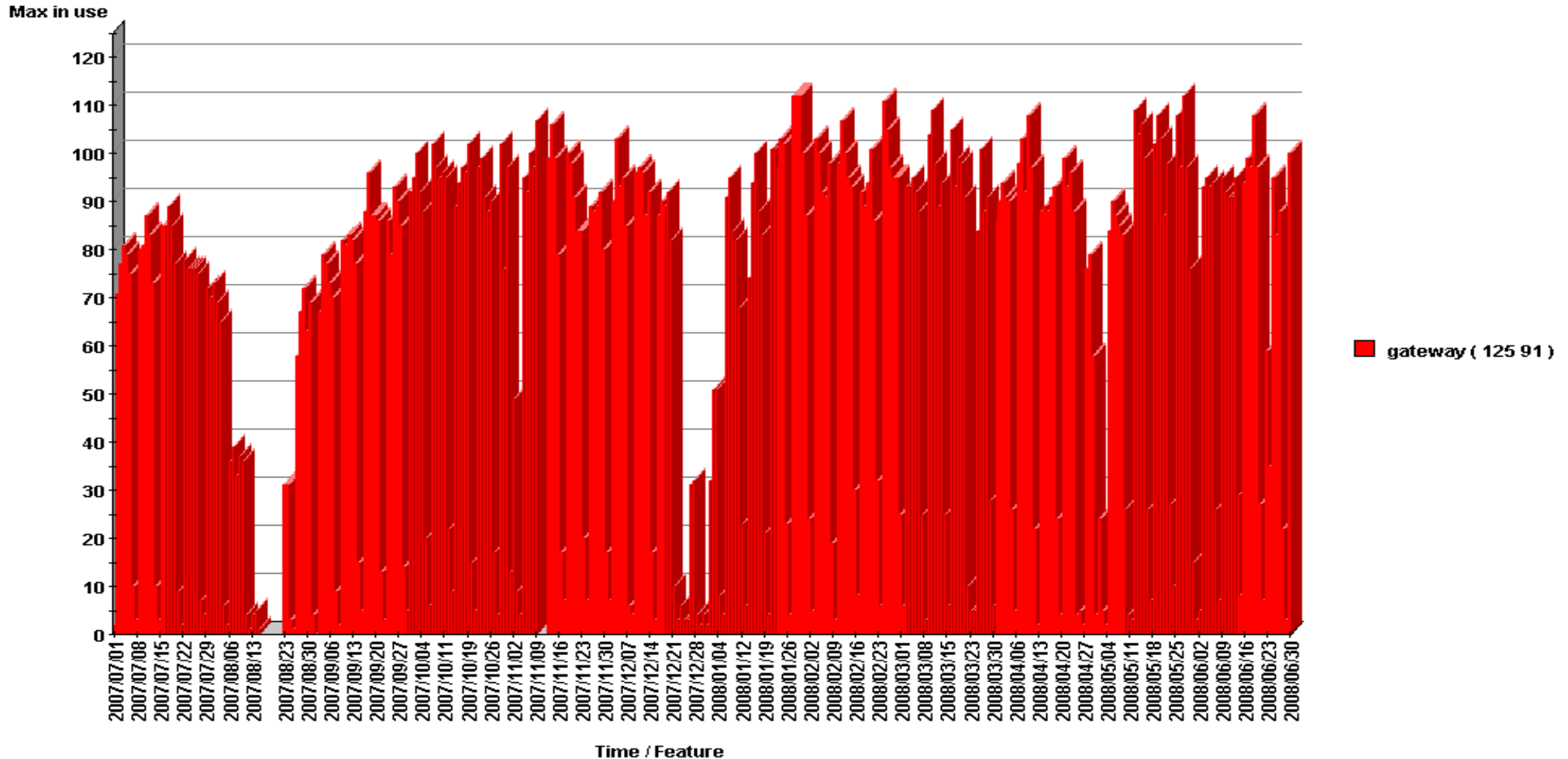
The Project

- Select the group of users to be involved
- Install Open iT on a dedicated centralized server
- Start system's instrumentation
 - ✓ Deploy the LICENSEAnalyzer[®] client on 13 License Servers
 - ✓ Deploy the SYSTEMAnalyzer[®] data acquisition module on 500 clients (workstations & Pcs)
- Define the methodology for the analysis and the required reports

Key Reports: Max Concurrent Used Licenses

Gateway MaxInUse luglio2007-2008

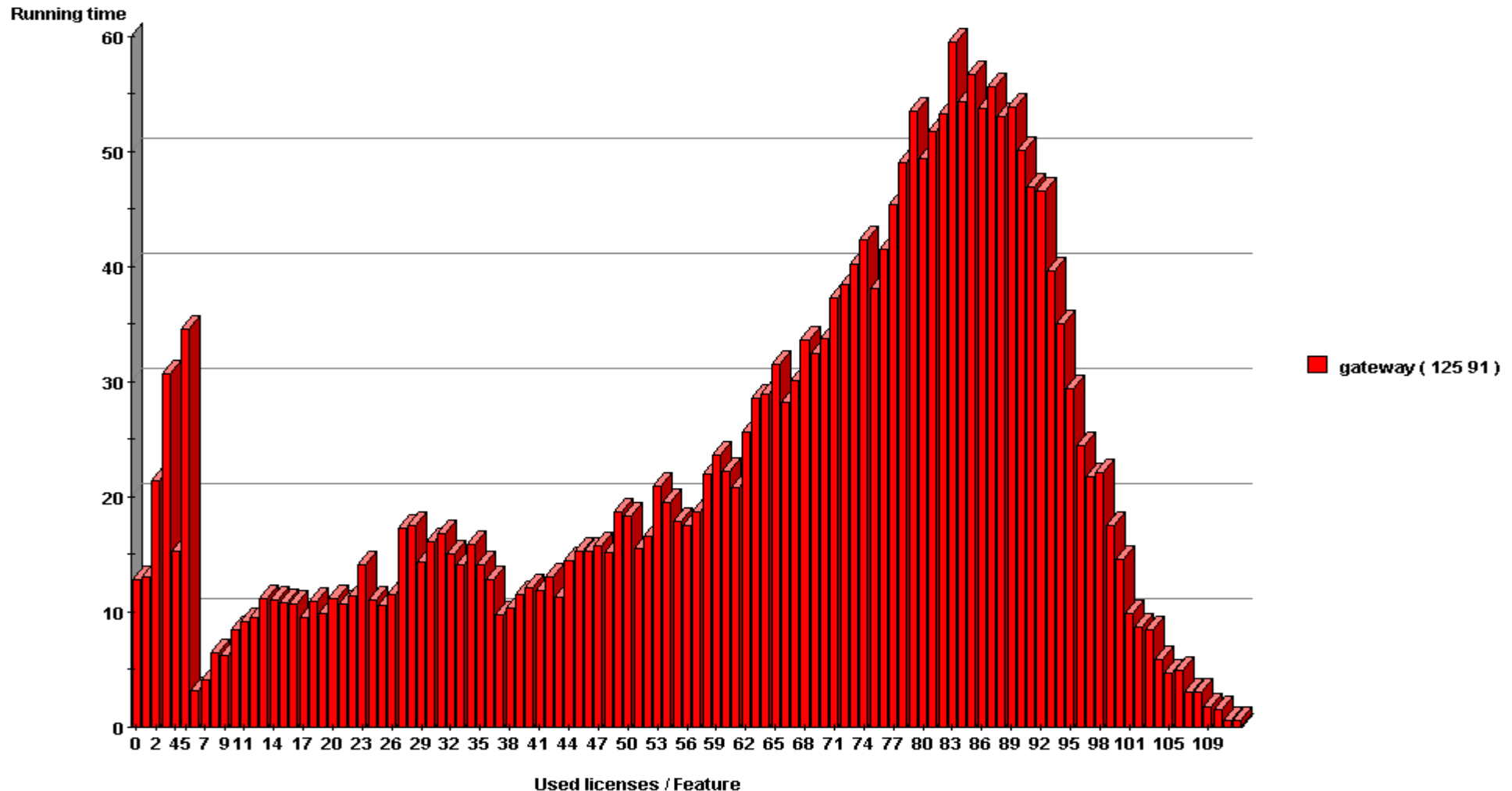
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Key Reports: Run Time at Concurrency Level

Gateway RunningTime luglio2007-2008

Control - drag -> zoom; Shift - drag -> move



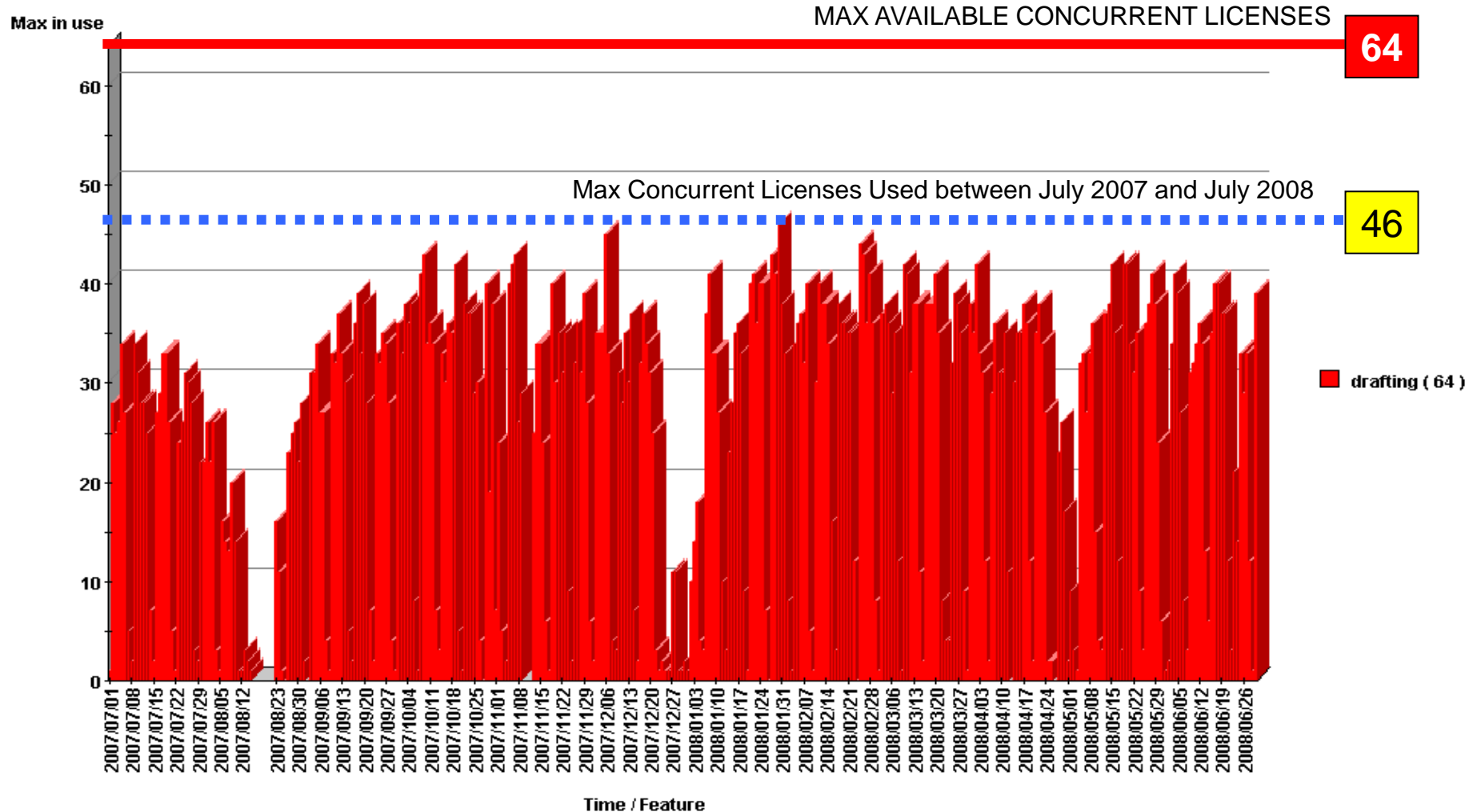
Phase 1

- The target is to find actual usage levels and patterns
- The initial focus is on:
 - ✓ *LICENSEAnalyzer*[®]
This module collects and analyzes application license usage providing insight on several utilization metrics.
 - ✓ *SYSTEMAnalyzer*[®]
This module collects and analyzes how HW and other system resources are used on each client providing insight on actual system obsolescence and on local applications usage

Phase 1 Findings: Actual Level of Concurrency

Drafting MaxInUse luglio2007-2008

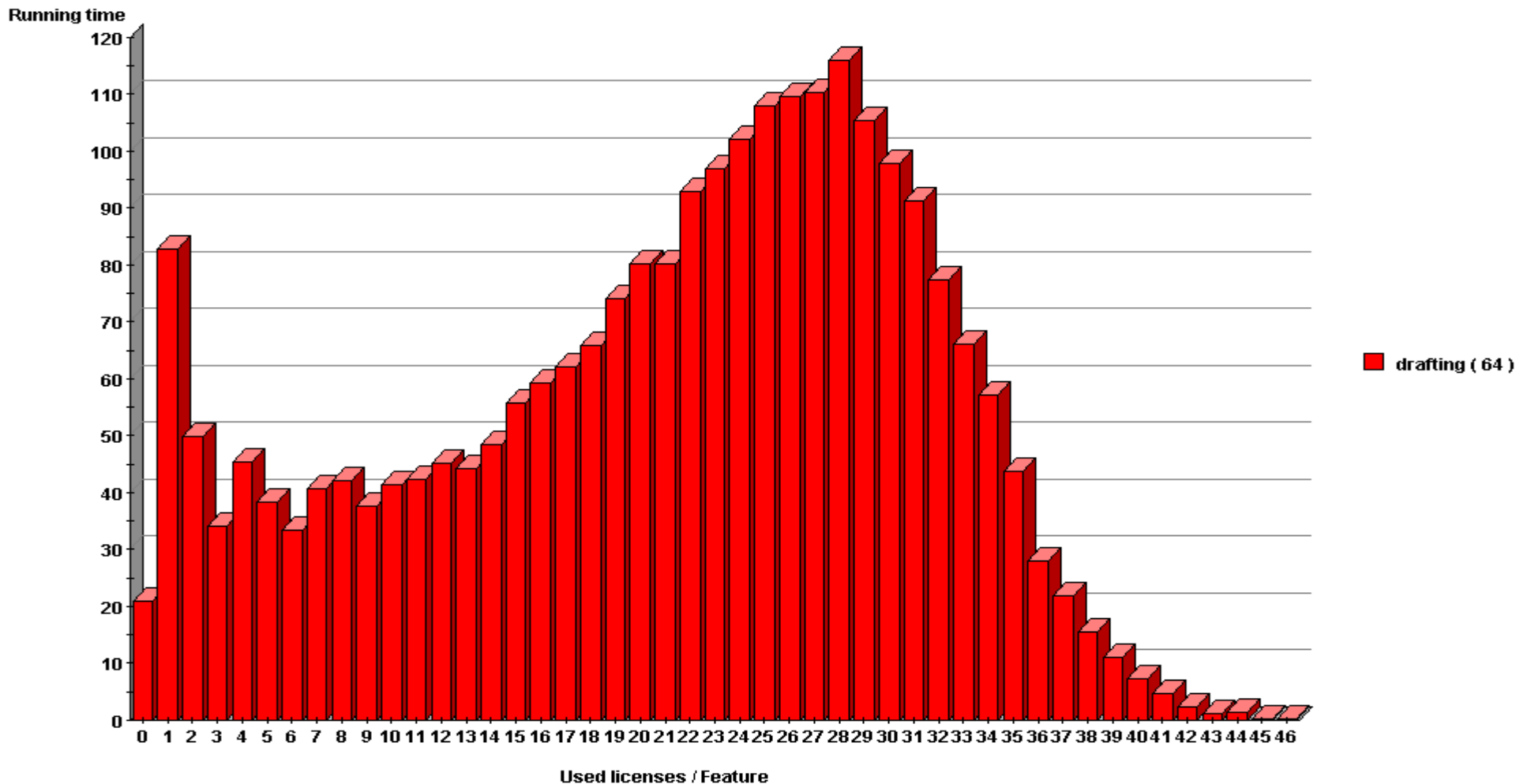
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Phase 1 Findings: Run Time Distribution

Drafting RunningTime luglio2007-2008

Control - drag -> zoom; Shift - drag -> move



Phase 2

- The target is implementing optimizing actions
- The focus is on *LICENSEAOptimizer*[®]
 - ✓ This module detects active application usage. Inactive applications can be suspended and forced to release the acquired license
 - ✓ It allows for enforcing a better usage policy resulting in a faster circulation of available licenses among users.
 - ✓ This policy can be fine tuned to assign different levels of service to different user groups

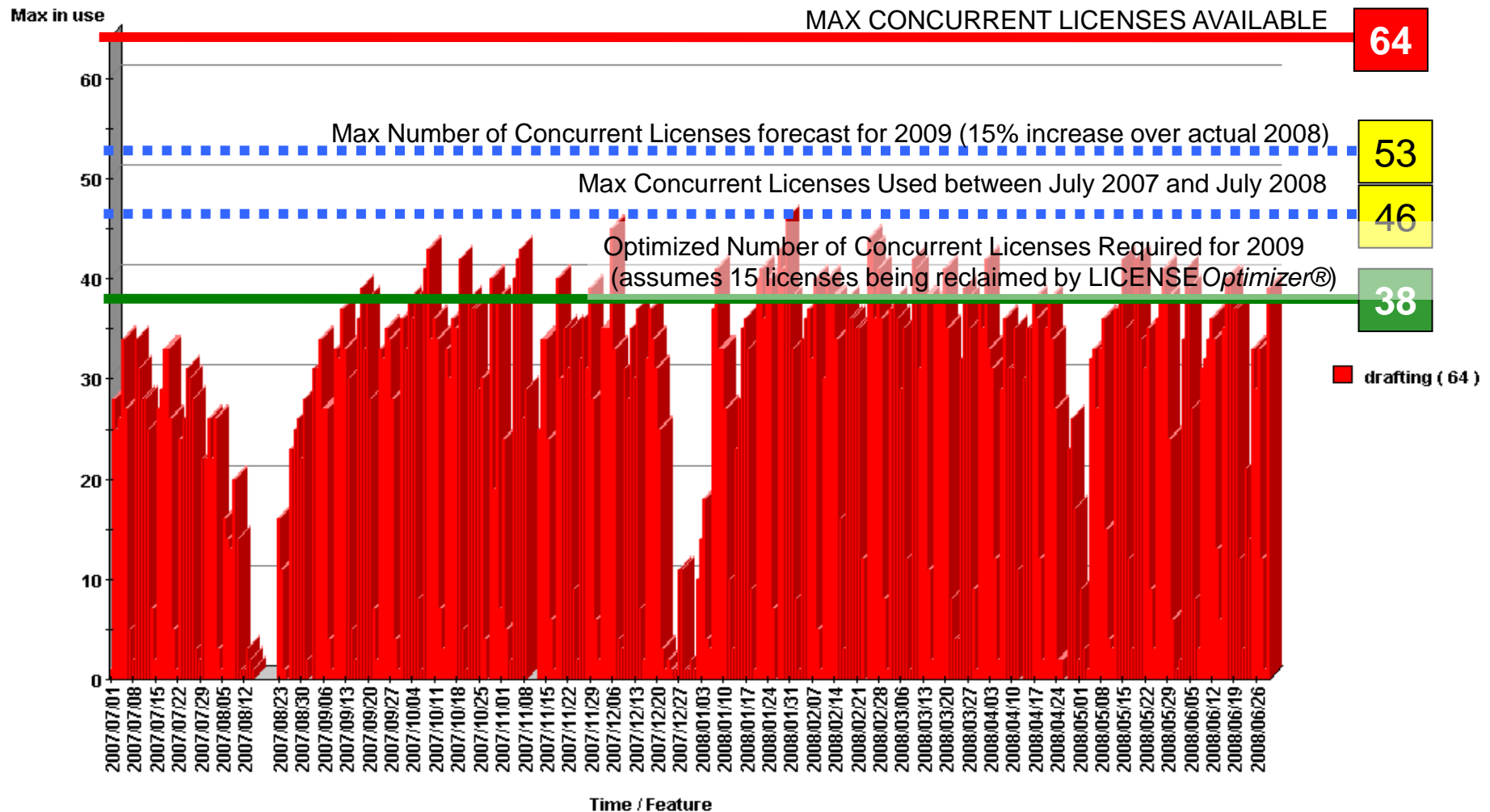
Phase 2: The Targets

- The target is to define the optimal number of licenses in the following scenario:
 - ✓ Achieve the maximum efficiency level
 - ✓ Acknowledge a 15% increase in demand forecast by the business
 - ✓ Grant the same service level without any impact on the users

Phase 2: The Optimal Number of Licenses

Drafting MaxInUse luglio2007-2008

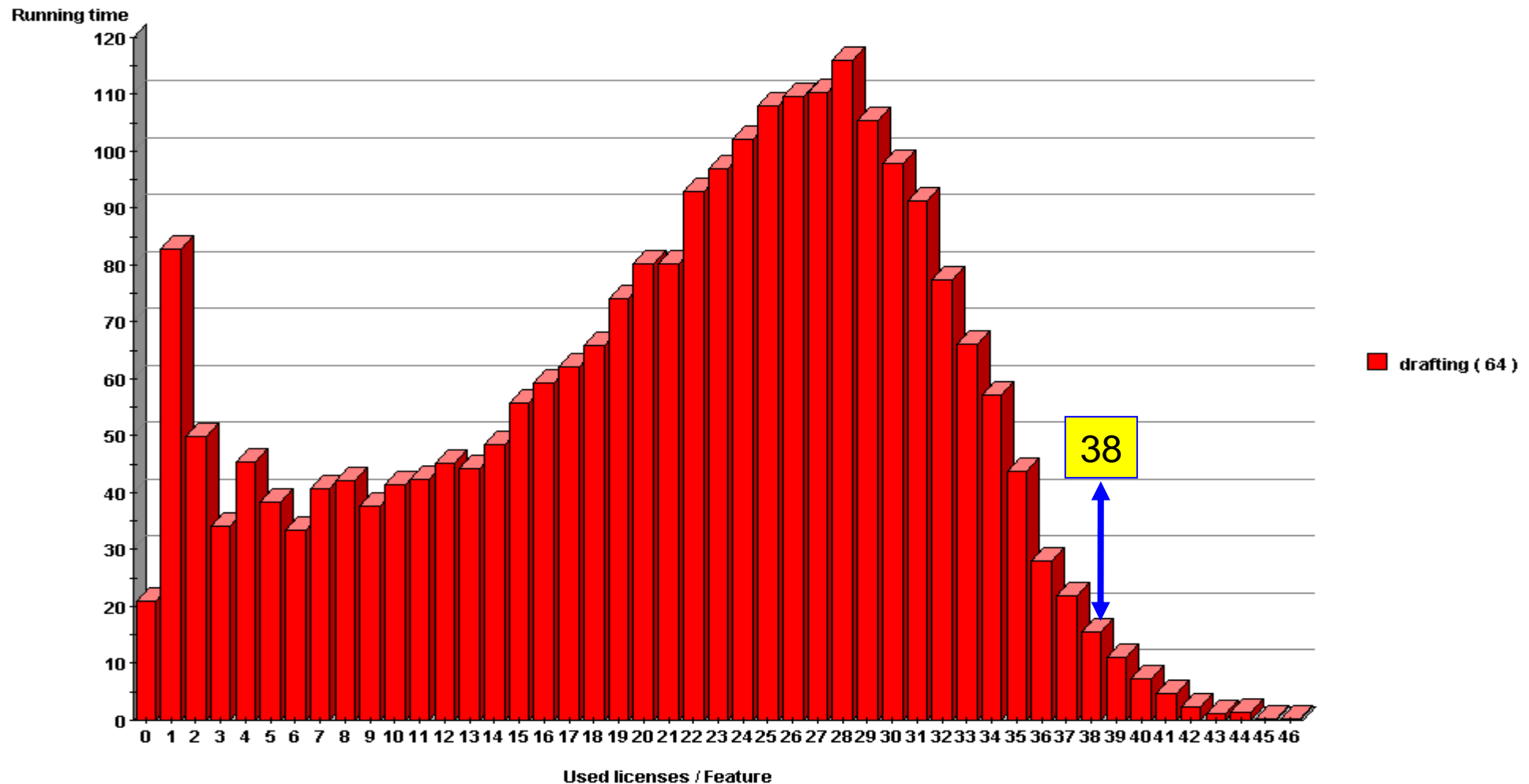
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Phase 2: Checking the Impact

Drafting RunningTime luglio2007-2008

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Project Results

- Phase 1:
 - ✓ 40% reduction in yearly costs
- Phase 2:
 - ✓ 15% increase in the user demand
 - ✓ 14% further reduction in yearly costs
- Total yearly cost reduction achieved: - 47%
- Project Payback:
 - ✓ Less than 6 months

Next Steps

- Extend the metering to:
 - ✓ More Engineering application
 - ✓ Other locations worldwide
- Leverage available historical data for:
 - ✓ Finding further areas of savings
 - ✓ Optimizing office productivity application usage
 - ✓ Implementing active HW obsolescence policies

Conclusions

- Open iT proved to be a valuable tool
 - ✓ High ROI
 - ✓ Fast Pay Back
 - ✓ Effective
- Open iT long term benefits are just emerging
 - ✓ A comprehensive database enables further discoveries
 - ✓ Support for a wide range of metrics allows to address many sides of IT infrastructure optimization