IT Service Management at CERN
Data Centre and Service monitoring and status

David Martin Clavo - IT Service Management Team

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Sofia, Bulgaria

Service Availability Overview

2006: Initial version of SLS (Service Level Status), synchronised with SDB (Service Database)
2011: CERN Service Catalogue, ServiceNow and Service Portal go live
2014: Service Availability Overview page in the CERN Service Portal
2015: Service Availability Overview for Public Screens. Simplification to only 3 levels of availability. Receive data from XSLS aggregator instead of fetching from ServiceNow. Phaseout of SDB
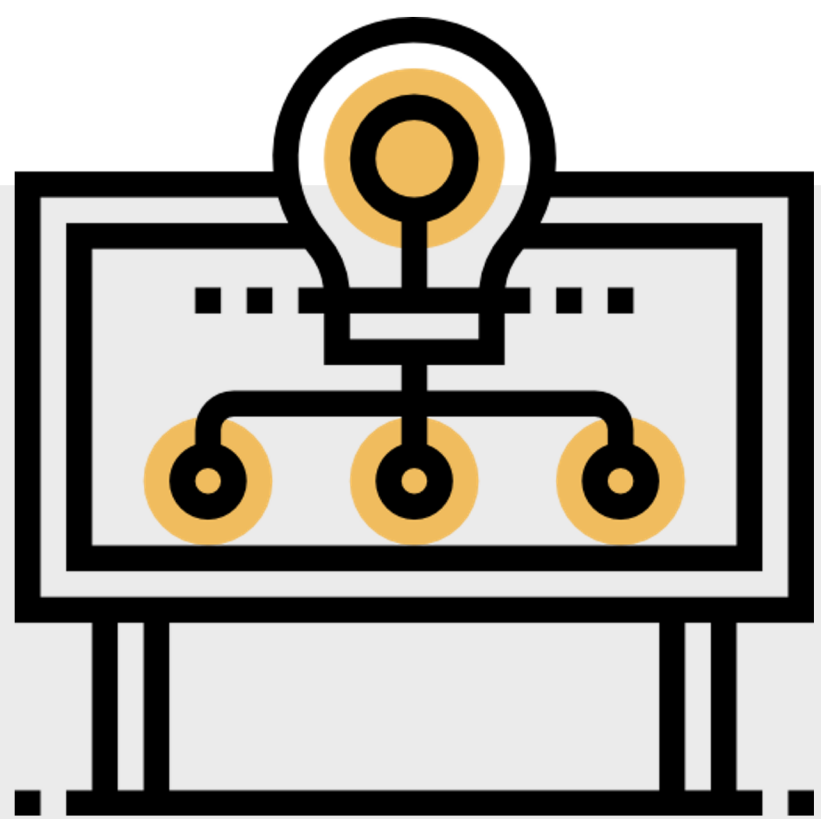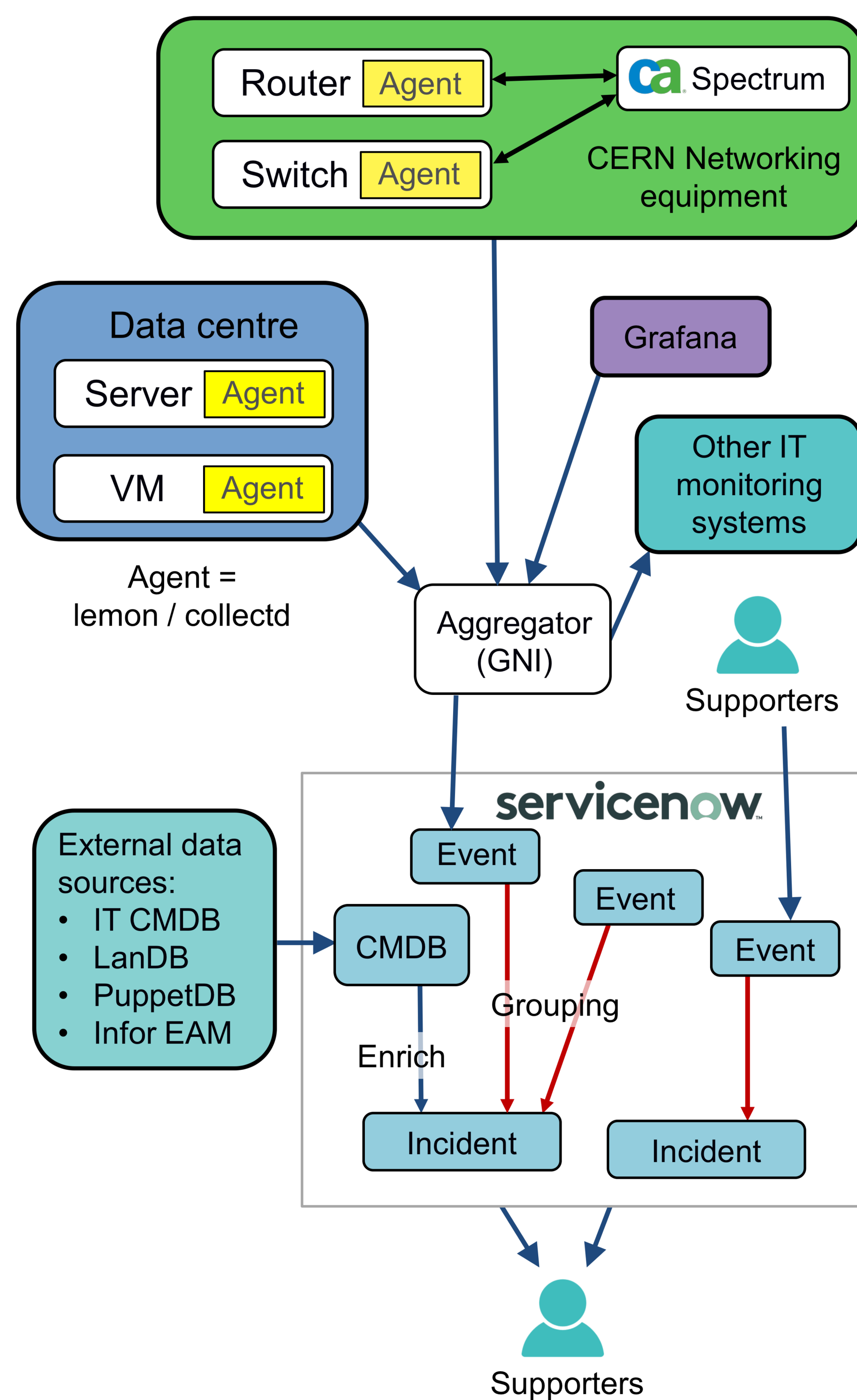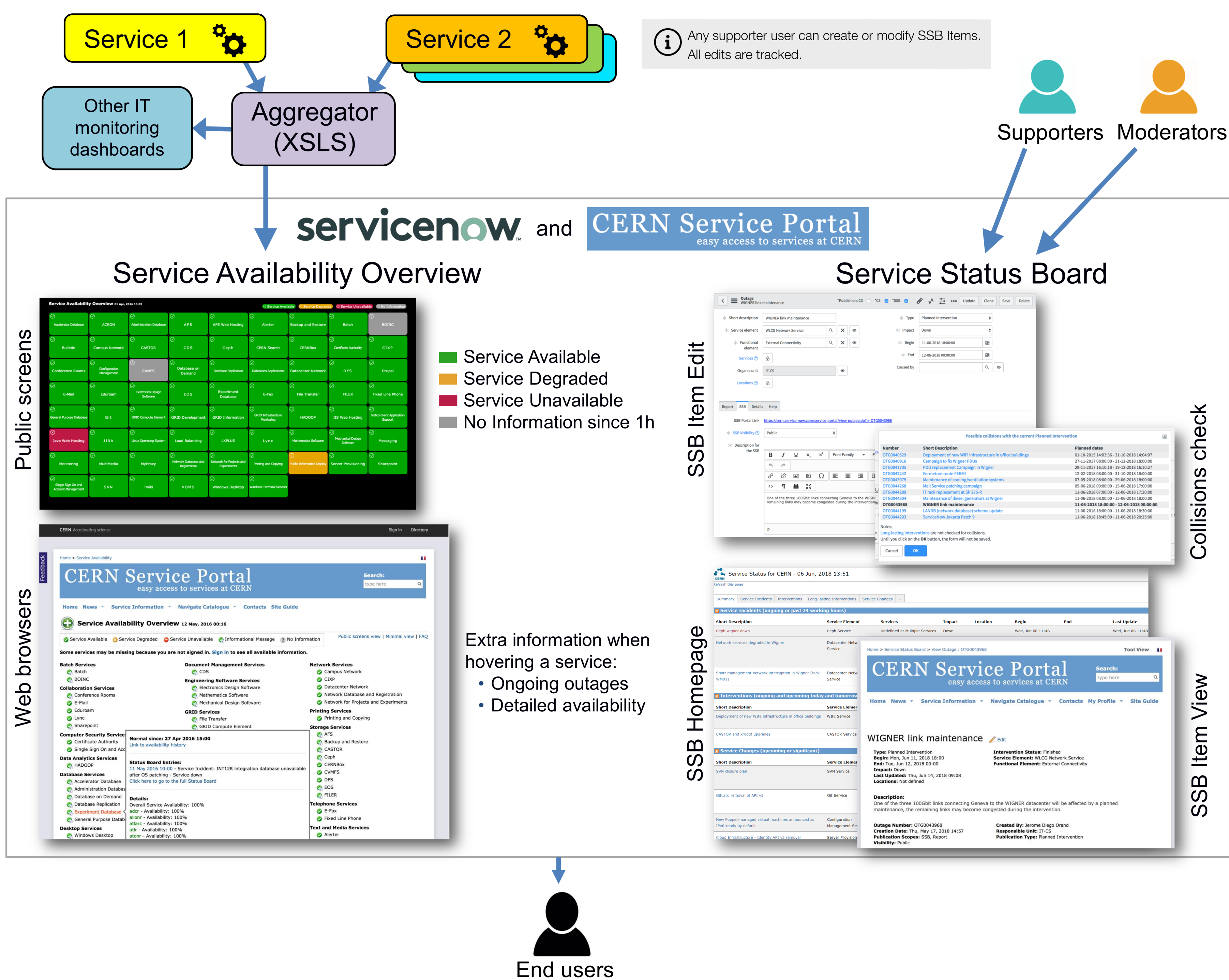
Service Status Board

1980: IBM Mainframe
1995: Static website (Macromedia Dreamweaver)
Introduced the current name: SSB
2000: Attempt to migrate to Microsoft Frontpage
2011: Migration to Drupal CMS. Allow supporters to publish their own content. SSB for IT and GS (General Services)
October 2013: Migration to ServiceNow and the CERN Service Portal.
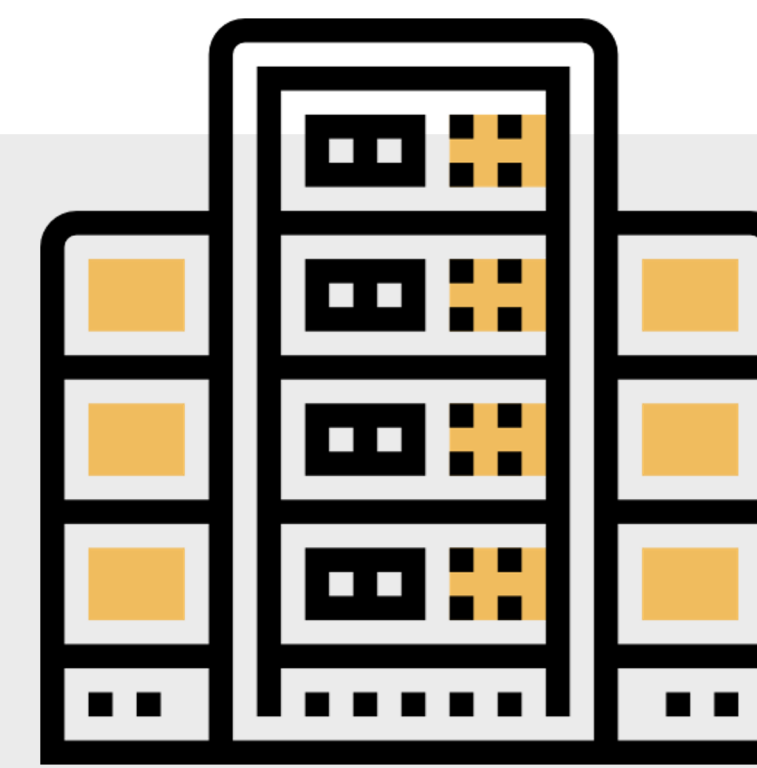
Data Centre Monitoring

2006: Remedy ITCM used by IT Computing Facilities group
Early 2013: Migration of ITCM to ServiceNow. Integration with LAS (Lemon Alarm System)
Late 2013: Integration with GNI (General Notification Infrastructure)
2016: Phaseout of LAS. Revamp of alarm grouping rules

Service 1 | Service 2

Other IT monitoring dashboards

Aggregator (XSLS)

Any supporter user can create or modify SSB Items. All edits are tracked.

Supporters | Moderators

servicenow and **CERN Service Portal** easy access to services at CERN

Service Availability Overview

Public screens

Web browsers

- Service Available
- Service Degraded
- Service Unavailable
- No Information since 1h

Extra information when hovering a service:
• Ongoing outages
• Detailed availability

Service Status Board

SSB Item Edit

Collisions check

SSB Homepage

SSB Item View

End users

SSB Item visibility
Public: Everything visible for public users
CERN: Detailed description only visible when logged in

RSS Feeds and Mattermost
All lists of SSB Items are available through SSB Feeds.
A dedicated channel in the Mattermost chat system also displays them for easy following.

Router Agent | Spectrum
Switch Agent | CERN Networking equipment

Data centre
Server Agent
VM Agent

Agent = lemon / collectd

Grafana

Other IT monitoring systems

Aggregator (GNI)

Supporters

External data sources:
• IT CMDB
• LanDB
• PuppetDB
• Infor EAM

servicenow

Event | Event | Event
CMDB | Grouping
Enrich
Incident | Incident

Supporters

	Service Incident	Planned Intervention	Service Change
Down	Service unavailable. Unplanned.	Service unavailable. Planned and announced.	Service will be completely retired.
Degraded	Degraded performance or partially unavailable. Unplanned.	Degraded performance or partially unavailable. Planned and announced.	Part of the service will be retired.
No Impact	(does not apply)	Transparent intervention. Planned and announced.	New functionalities or offerings

SSB Items created between Q4 2013 & Q2 2018
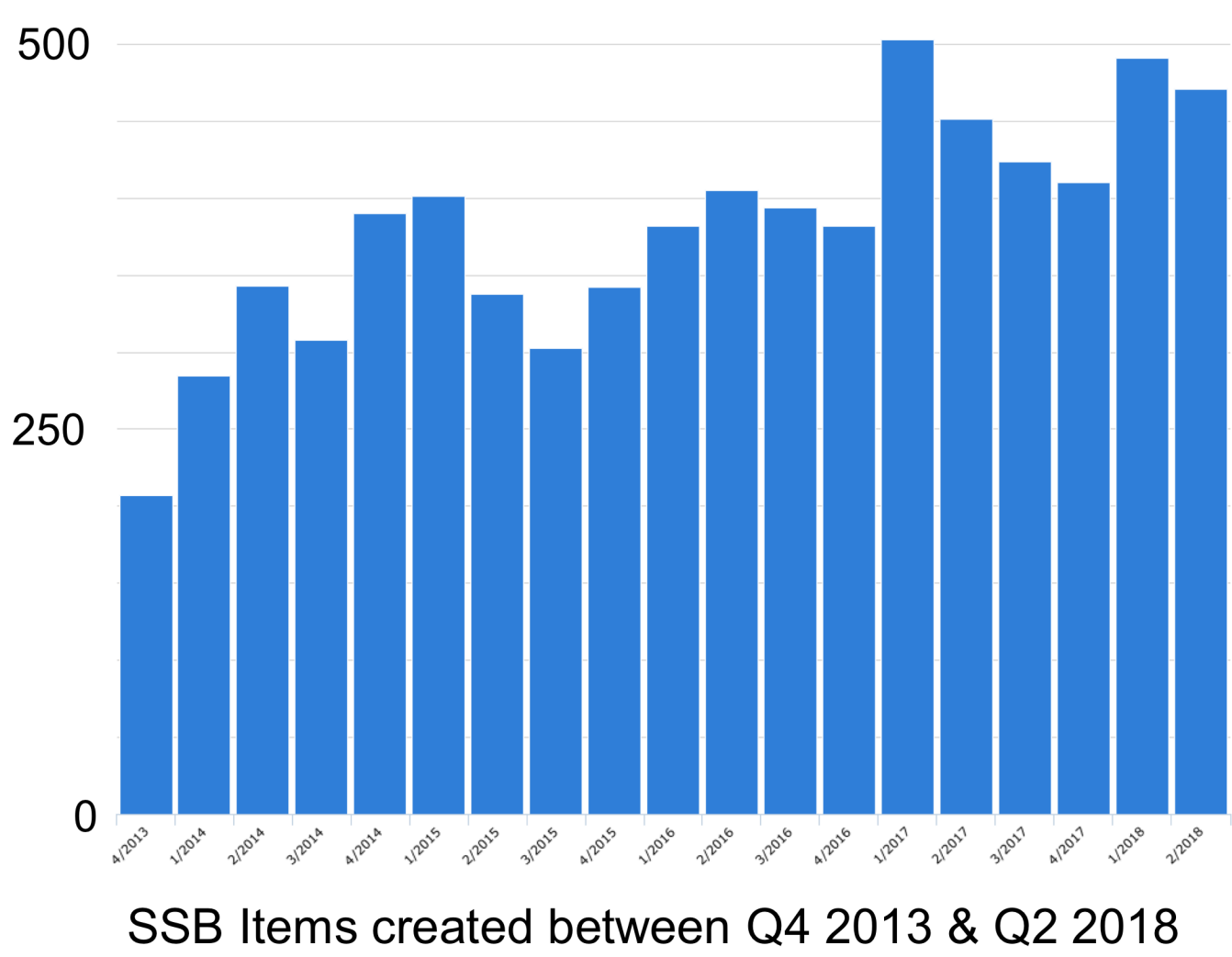
Event type	Grouping	Time limit
Hardware	Host	No limit
Network	Puppet Hostgroup	1 hour
Operating System	Puppet Hostgroup	1 hour
Application	Puppet Hostgroup	1 hour
No Contact	Puppet Hostgroup	1 hour
Grafana	Alarm name only	1 hour

Service Availability Overview: benefits

Provides **transparency** on current technical status of monitored IT services
Alerting supporters when the status of their service drops
Visible in both the **web** and **public screens** across the CERN site
Integrated with the **CERN Service Catalogue**
Links to **monitoring dashboards**

Service Status Board: benefits

Live view of current incidents and issues
Provides **transparency** on current, past and future service status and changes to end users
Supports the **planning** of service maintenance and transition
Integrated with the **CERN Service Catalogue**
Common display for **IT and non-IT services**
C3 / C5 report: review of past and upcoming incidents, interventions and changes in a weekly meeting.

Data Centre device monitoring integration with ServiceNow: benefits

Reduces cost of support
Direct routing of incidents to suppliers, e.g. repairs
Helps diagnose **underlying root causes**
All support cases in the **same platform**
Same process as human-generated tickets
Easy **reporting** and trending
Integrated with the **CERN Service Catalogue**

Future tasks and next steps

SSB Structure Review
The **structure** of the SSB pages is currently being **simplified** in order to improve usability

CERN Service Portal v2
The CERN Service Portal is currently being migrated to new website technology on top of the ServiceNow platform.
This will allow to review and further improve the **user experience** of the Service Status Board and the Service Availability Overview page.

SSB Notifications
Enable users to **subscribe** to:
- SSB Items Updates: a Service Incident is resolved, a Planned Intervention is finished, or other updates.
- Services: SSB Items created or updated for a given service.
Enable users to select how to receive notifications.

Better event grouping
Improve the quality of incidents generated by the monitoring integration, by adding **new grouping rules** that adapt better to different teams' needs.
Less incidents with more events per incident will help to **reduce the cost of support** further.