

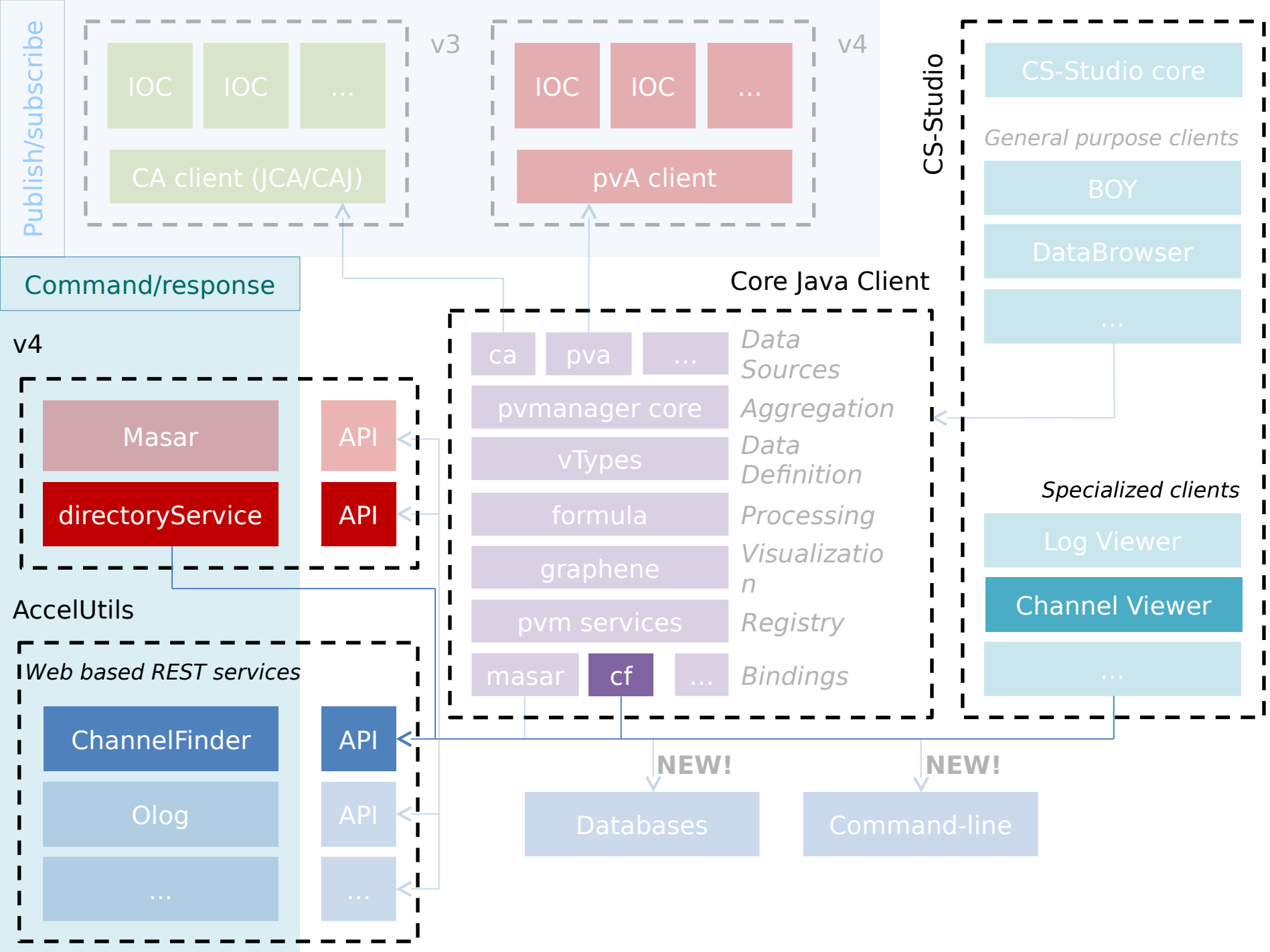


ChannelFinder

Directory Service for EPICS Channels

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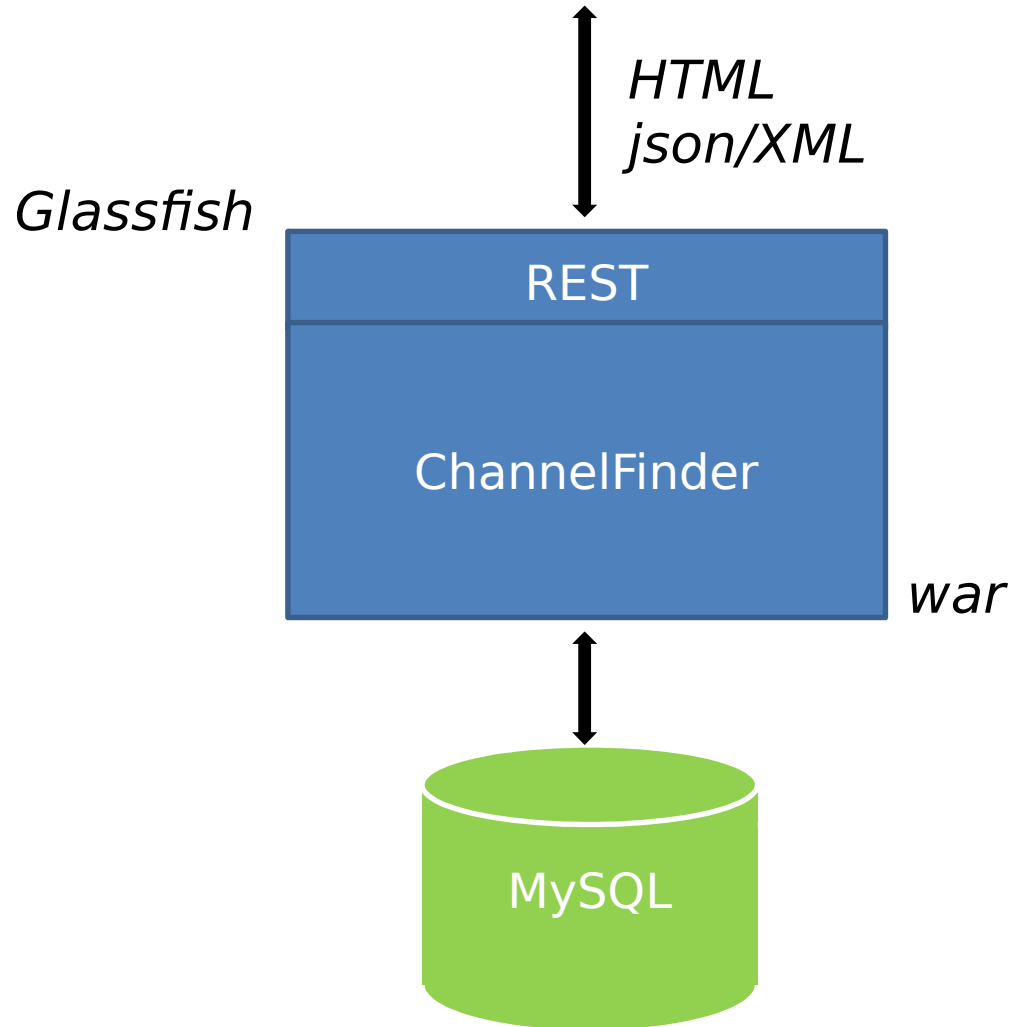
EPICS Collaboration Meeting, San Francisco, 05 Oct 2013



Motivation

- *Problem:* A flat name space restricts seriously
 - Clients need to know all channels beforehand
 - Applications need full configuration
- *Solution:* A generic directory service
 - “Query-by-functionality”
 - Simple directory data structure:
Channels have properties (key-value) and tags
 - No dependence on installation and local conventions

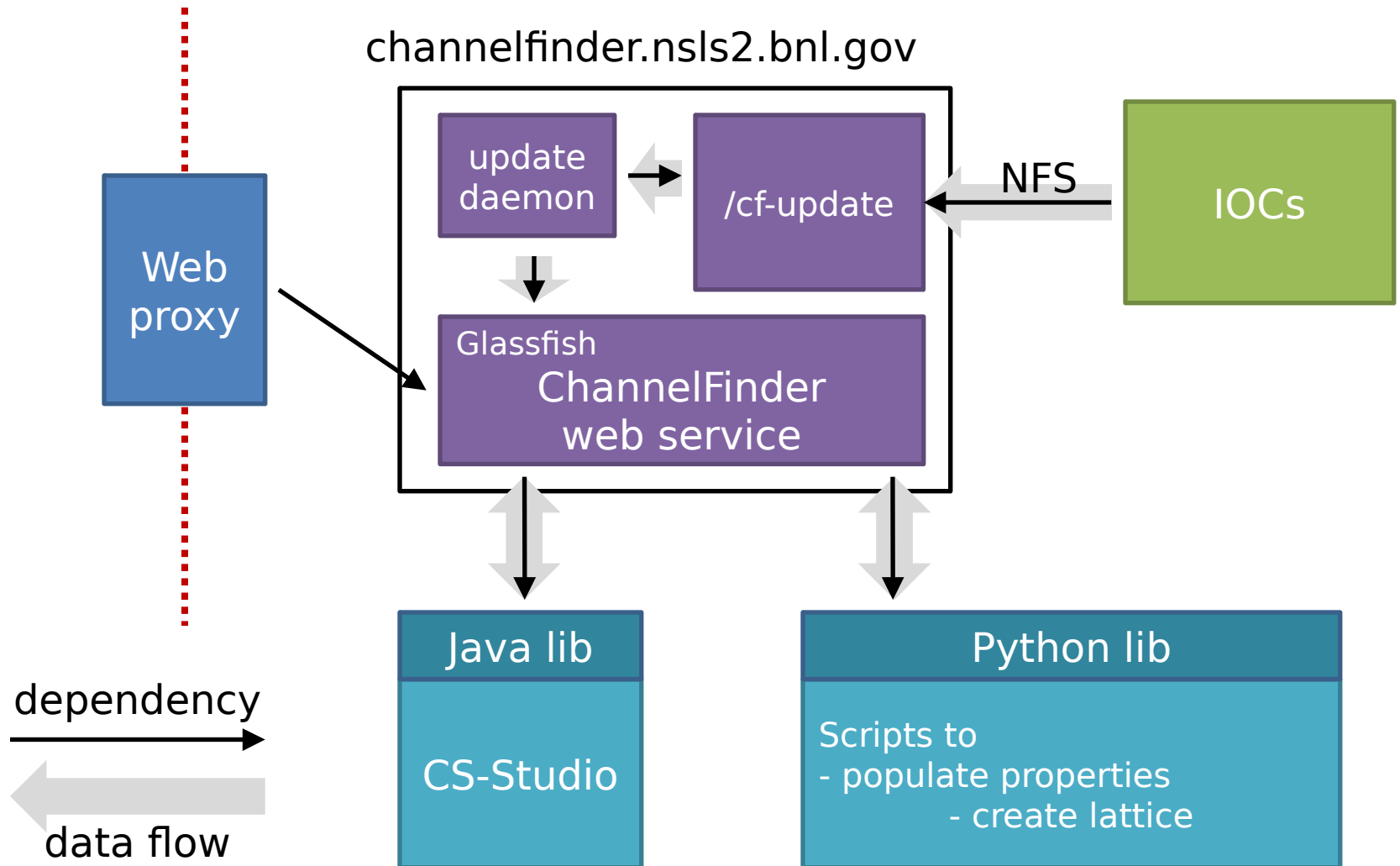
Architecture



Easy Installation

- Download and install Glassfish
- Download and install MySQL
- Download ChannelFinder
 - Run `channelfinder-base.sql` script to create database
 - Drop the `channelfinder.war` into `autodeploy` folder of Glassfish
 - Create JDBC connection pool resource

ChannelFinder at BNL



High Level Physics Usage

- Physics group adds properties and tags
- Directory service
helps manage thousands of channels and
create lattice structures
- Search instead of configuration
keeps HLA scripts simple with low
maintenance effort

ChannelViewer

Control System Studio (NLSII)

File Edit CSS Window Help

OPI Editor Alarm Data Browser CSS perspective

Channel Viewer

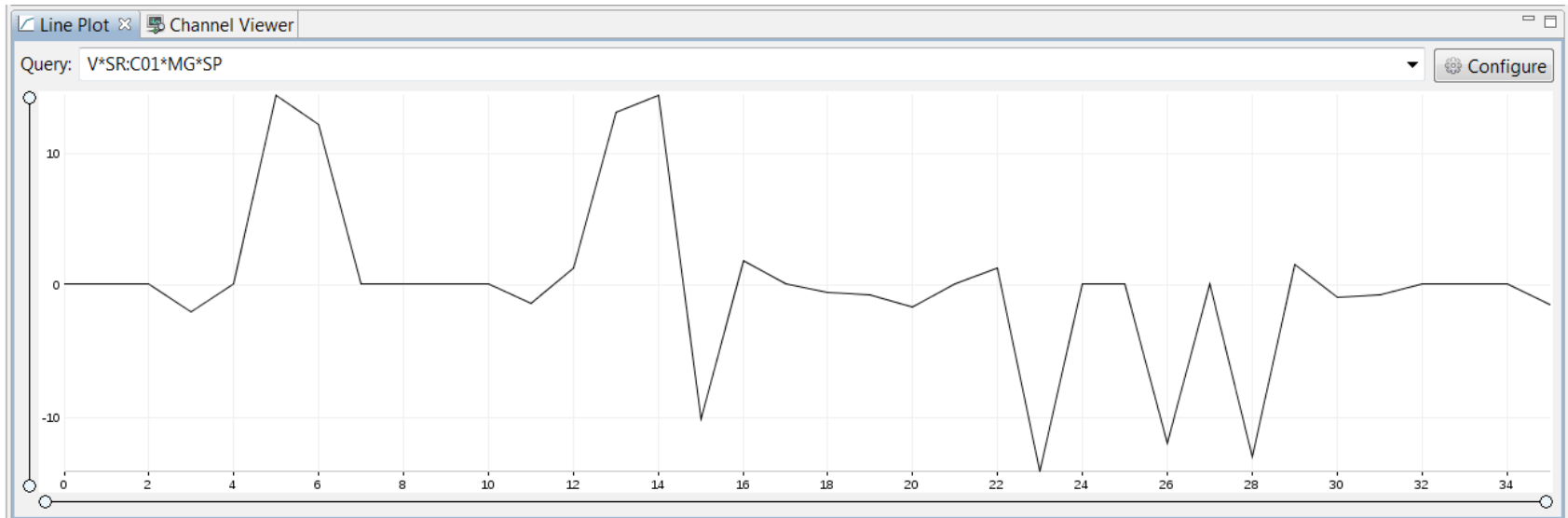
Query: * cell=C01 girder=G2 elemType=SEXT,QUAD

Channel Name	cell	girder	elemType	elemName	elemPosition	elemField	elemIndex	system	elem
V:1-SR:C01-MG:G2{QL2:134}Fld:SP	C01	G2	QUAD	ql2g2c01a	31.6966	k1	134	V:1-SR	0.448
V:1-SR:C01-MG:G2{QL3:145}Fld:I	C01	G2	QUAD	ql3g2c01a	32.8997	k1	145	V:1-SR	0.275
V:1-SR:C01-MG:G2{QL2:134}Fld:I	C01	G2	QUAD	ql2g2c01a	31.6966	k1	134	V:1-SR	0.448
V:1-SR:C01-MG:G2{QL3:145}Fld:SP	C01	G2	QUAD	ql3g2c01a	32.8997	k1	145	V:1-SR	0.275
V:1-SR:C01-MG:G2{QL1:125}Fld:SP	C01	G2	QUAD	ql1g2c01a	30.5361	k1	125	V:1-SR	0.275
V:1-SR:C01-MG:G2{QL1:125}Fld:I	C01	G2	QUAD	ql1g2c01a	30.5361	k1	125	V:1-SR	0.275
V:1-SR:C01-MG:G2{SL3:141}Fld:SP	C01	G2	SEXT	sl3g2c01a	32.4622	k2	141	V:1-SR	0.2
V:1-SR:C01-MG:G2{SL1:121}Fld:SP	C01	G2	SEXT	sl1g2c01a	29.8986	k2	121	V:1-SR	0.2
V:1-SR:C01-MG:G2{SL3:141}Fld:I	C01	G2	SEXT	sl3g2c01a	32.4622	k2	141	V:1-SR	0.2
V:1-SR:C01-MG:G2{SL2:132}Fld:I	C01	G2	SEXT	sl2g2c01a	30.9986	k2	132	V:1-SR	0.2
V:1-SR:C01-MG:G2{SL2:132}Fld:SP	C01	G2	SEXT	sl2g2c01a	30.9986	k2	132	V:1-SR	0.2
V:1-SR:C01-MG:G2{SL1:121}Fld:I	C01	G2	SEXT	sl1g2c01a	29.8986	k2	121	V:1-SR	0.2

Channel

- Process Variable
- Configure...
- Copy PV name to clip-board
- EPICS PV Tree
- Probe
- PV Table
- OPI Probe
- Data Browser

Channel Line Plot



Service Button

Execute

Method Name: Search

Find Channels

Arguments:

Argument Prefix:

argument name	pv/formula
query	loc://\${DID}_cf_find_query

Results:

Result Prefix:

result	pv/formula
result	loc://\${DID}_cf_find_result
result_size	loc://\${DID}_cf_find_result...

OK Cancel

Services Properties

Property	Value
Basic	

Monitors

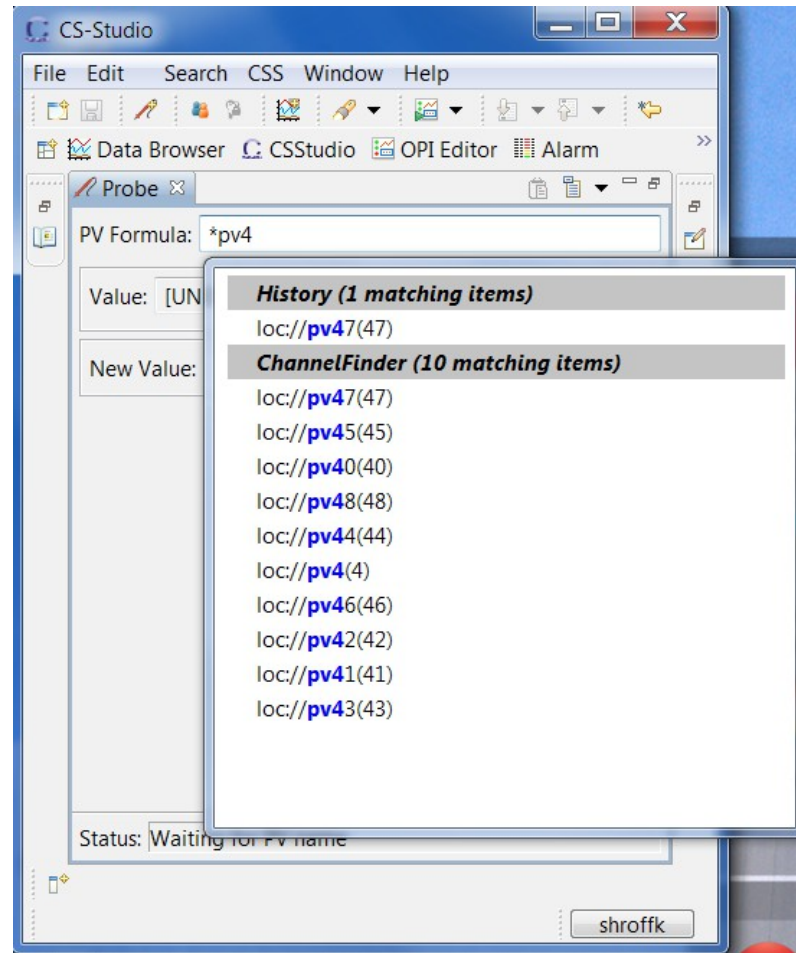
- Tank
- XY Graph
- Intensity Graph
- Byte Monitor
- Line Graph
- Scatter Graph
- Scatter Graph
- Service panel
- VTable Display
- VImage
- Service button
- Boolean Symbol Monitor
- Multistate Symbol Monitor
- Data Browser

Controls

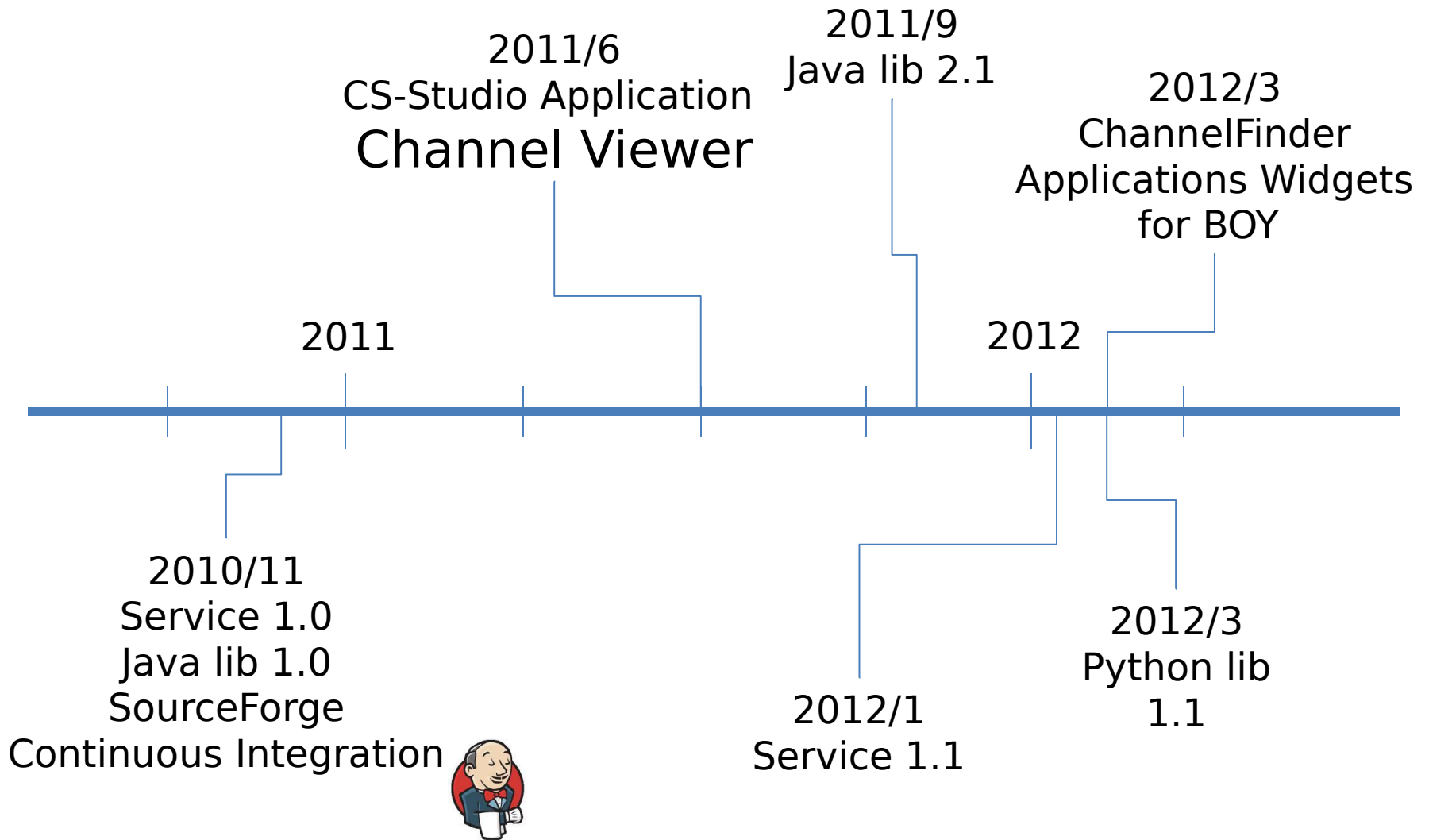
Others

Multi-channel

Auto-Complete



A Brief History



Questions?

Thank you.