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vCampus Live! 2013

The Value of PI System Application Development

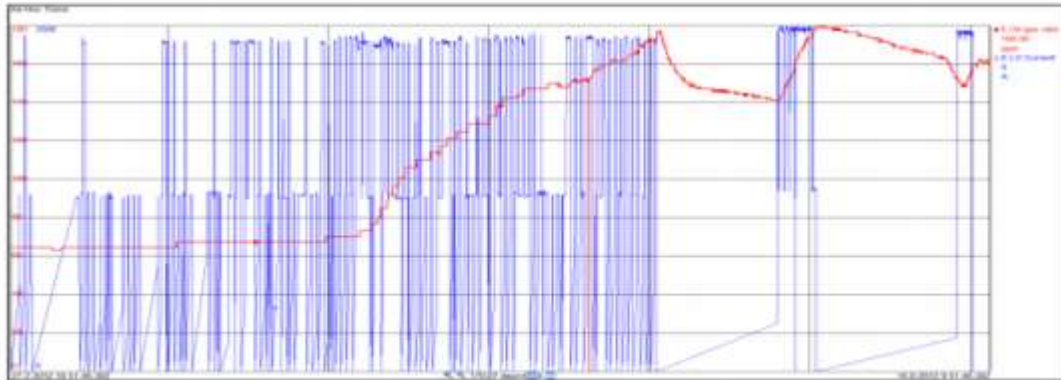
Presented by **Ray Hall**
VP, Development

Equipment Condition Monitoring- Fingrid

Transformer fault

Juha Mertanen, Adviser, Grid Management:

"I use the CMS system daily to monitor the state of our assets. Two detected transformer faults have already paid back the time and money used."



Health index analysis tool for switchgear

Tuomas Laitinen, Special Adviser, Grid Management:

"Health index is a long needed tool for analyzing large asset populations like switchgear."



	4.47E+04 131.40	Average npp	Standard deviation npp	4.47E+04 131.40	Average npp	Standard deviation npp
Cloud cover range	0	100%	0.00000	0	100%	0.00000
Overcast range	0	100%	0.00000	0	100%	0.00000
Overcast/overcast with rain	0	100%	0.00000	0	100%	0.00000
Light-hazy range	0	100%	0.00000	0	100%	0.00000
Total	0	100%	0.00000	0	100%	0.00000
Cloud cover range	0.47E+04 131.40	Average npp	Standard deviation npp	0.47E+04 131.40	Average npp	Standard deviation npp
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Instrument Reliability - Anglo Platinum

Gross Error Detection

- Detect data errors based on simple metrics using simple, fast mathematical algorithms
- No models are implied or used. Therefore, low maintenance
- Each data point can have a single state. The states are prioritised
- The data is classified into the following states:

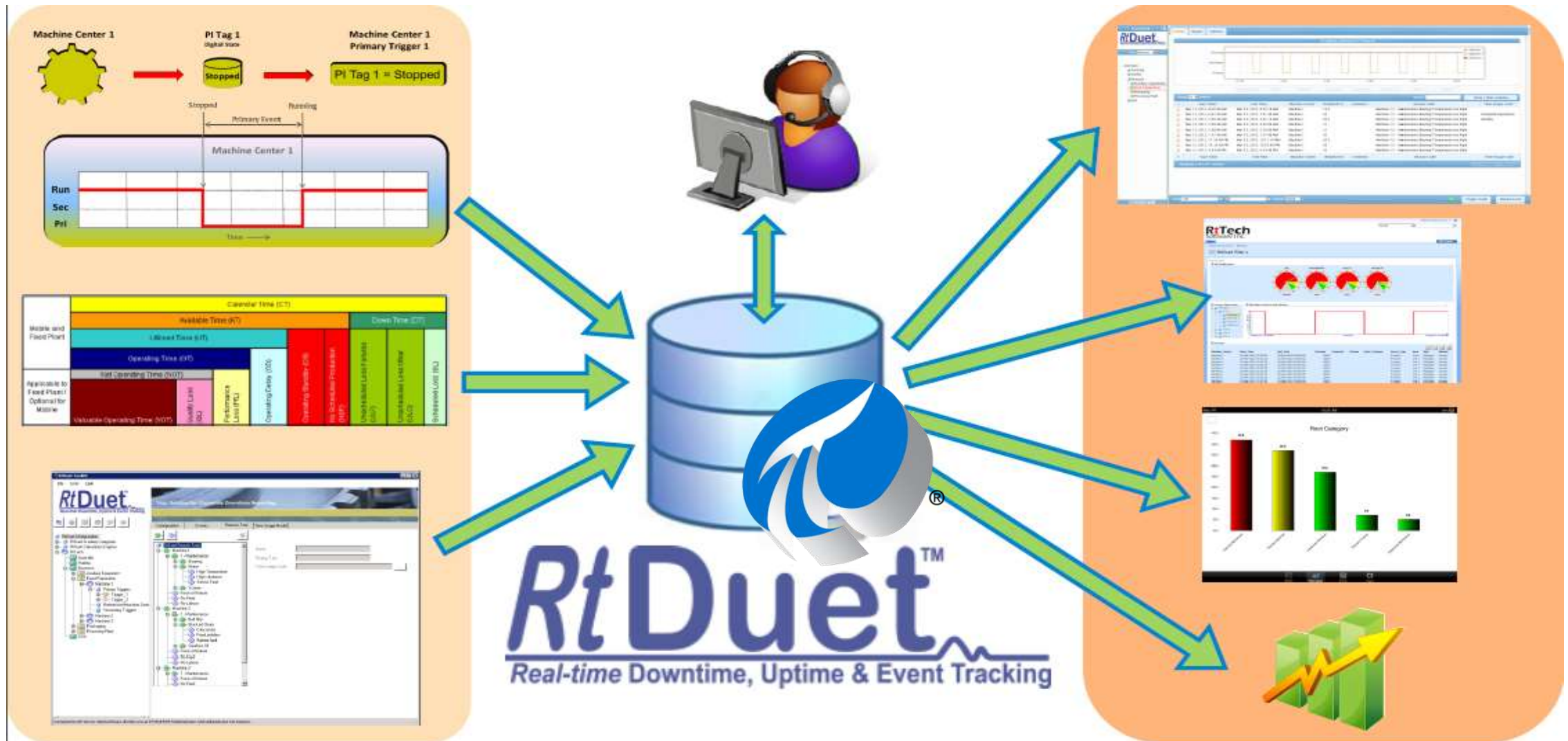
Category	Description	Fault state	Analogue	Digital
Good	Good data quality		X	X
Missing Data	Data point is missing	Yes	X	X
Not Running	Equipment or process not running		X	X
High	Data point is above the process high limit	Yes	X	
Low	Data point is below process low limit	Yes	X	
Not Updating	Data is not updating	Yes	X	
ROC	High rate of change	Yes	X	
Simulated	Simulated data	Yes	X	X
Qbad	Quality bad indicator from the control system	Yes	X	X



Instrument Monitoring Dashboard

- A simple webpart is used to display the instrument status
- Based on the PI AF SDK
- Longer term results are accessible via reports
- The webpart uses the same PI AF configuration
- All the information is derived from PI AF
- Simple intuitive design
- The webpart is dynamic providing the user with a drill down capability

Increased Asset Utilization - RtDuet



Mobile Insight - Transpara Visual KPI

Transpara Visual KPI - Microsoft Internet Explorer provided by Carolina Energy Group

Address: http://10.102.11.227:8173/asp/asp.asp?view=67774c4b-4adb-49d2-e14e-2d738b6d628ac=Allgroups&view=67774c4b-4adb-49d2-e14e-2d738b6d628ac=Allgroups&view=67774c4b-4adb-49d2-e14e-2d738b6d628ac=Allgroups

as of 4/24/2009 11:07:35 AM

Transpara

Home | Overview | All Scorecards

Scorecard: AGC Status

BS 1 560.8	BS 2 561.7	CR 1 0	CR 2 .015	RV 4 0	WG 1 -1	WG 2 69	WG 3 0	WG 4 -1
BRESCO 45.55	WARR RUN -.095	SUN 1 75.3	SUN 2 0	SUN 3 85.3	SUN 4 132.7	CAMDEN 0	MCRRF 12.1	

Scorecard: Steam

BS 1 565	BS 2 564.9	CR 1 0	CR 2 0	RV 4 0	WG 1 0	WG 2 65	WG 3 0	WG 4 0
BRESCO 44.69	CON % 171.8	KEY % 354.4	Lambda 41.81	HAW U2 OPA 1.48				

Scorecard: Coal Units

BS 1 565	BS 2 564.9	CR 1 0	CR 2 0	WG 2 65	WG 3 0	Lambda 41.81		
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Scorecard: CTs

CR 1 CT 0	NC 1-4 CT 0	NC 5-8 CT 0	PYMN 1-2 C 0	PYMN 3-4 C 0	PYMN 51 0	PHIL 1-2 C 0	PHIL 3-4 C 0	RV 6 CT 0
RV 7-8 CT 0	WG 1 CT 0	WP 5 CT 0	HL 1 0	HL 2 0	HL 3 0	HL 4 0	HL 5 0	HL T 0

Scorecard: Nuclear

CC 1 883.3	CC 2 864.3	NMP 1 622.5	NMP 2 1,137	GINNA 0				
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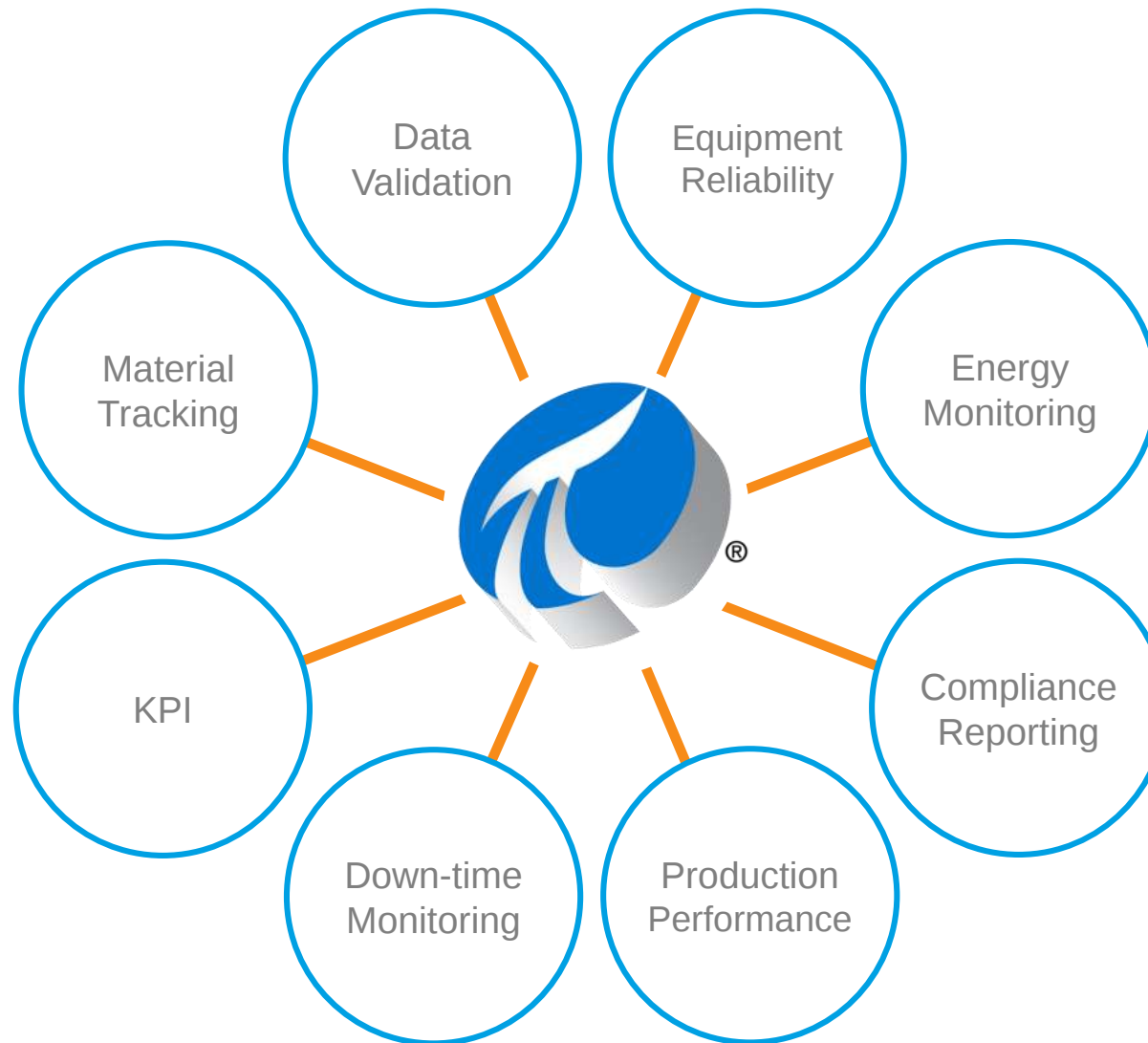
Scorecard: PPAs

BRESCO 44.69	WARR RUN 0	Twin Grove 182	SUN 1 75.2	SUN 2 0	SUN 3 84.9	SUN 4 132.2	SUN CTs 0	SUN DSL 0
CAMDEN 0	MCRRF 11.5							

Low Line Low Good High High High Underscore Not in Service

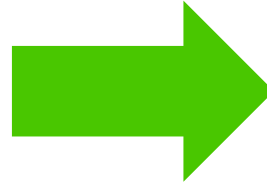


Value-Add through Domain Expertise



Adapting to Change

FROM

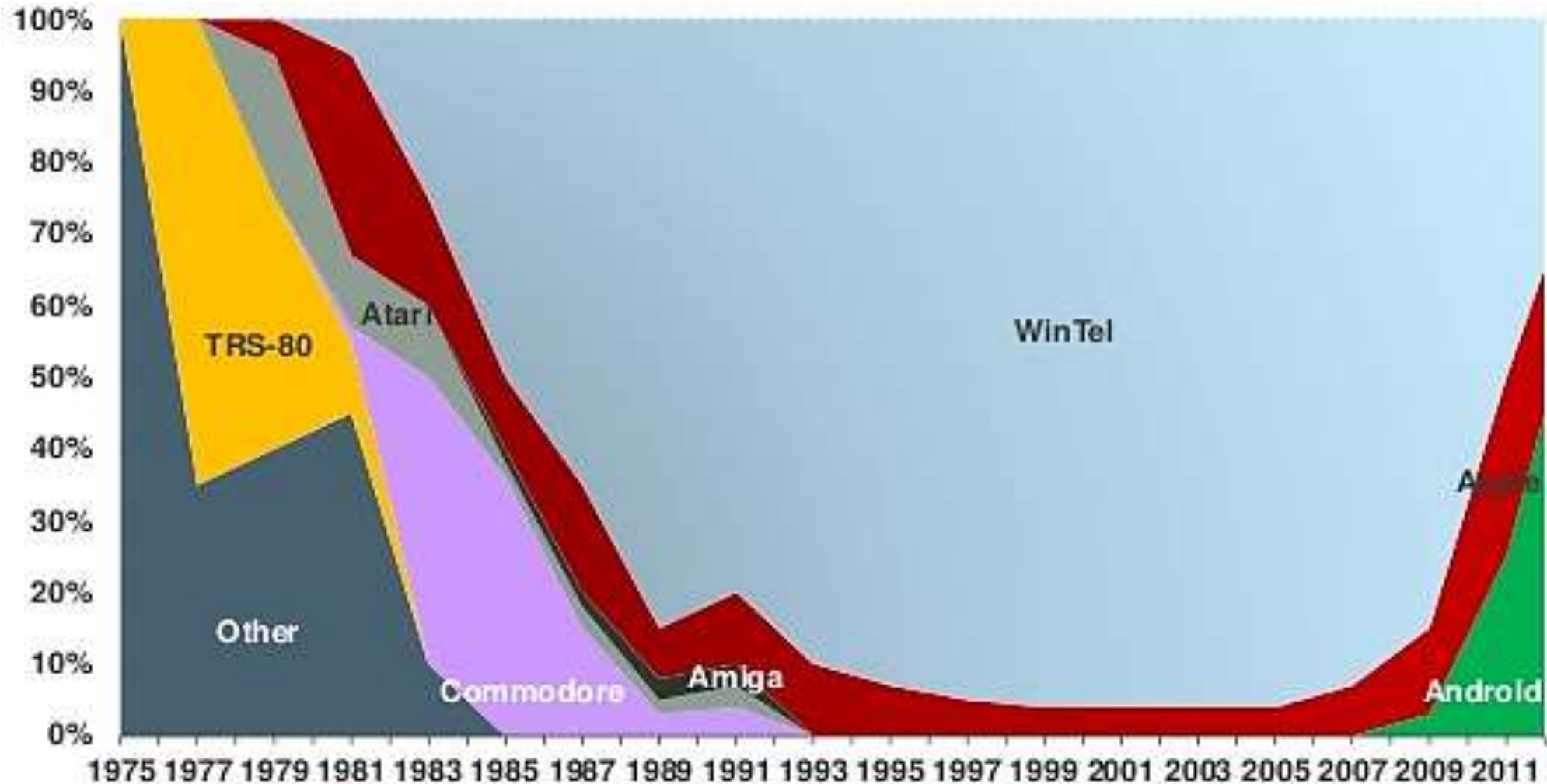


TO



Adoption of Devices

Global Market Share of Personal Computing Platforms



New Deployment Options - SaaS

BOX PRODUCT



HYBRID



CLOUD

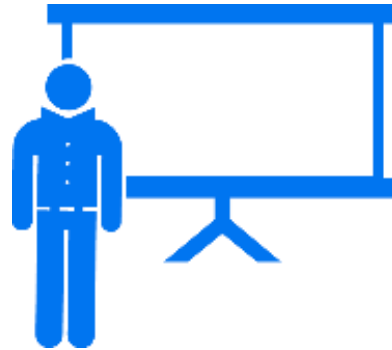


Investing in Our Developer Community

PRODUCTS



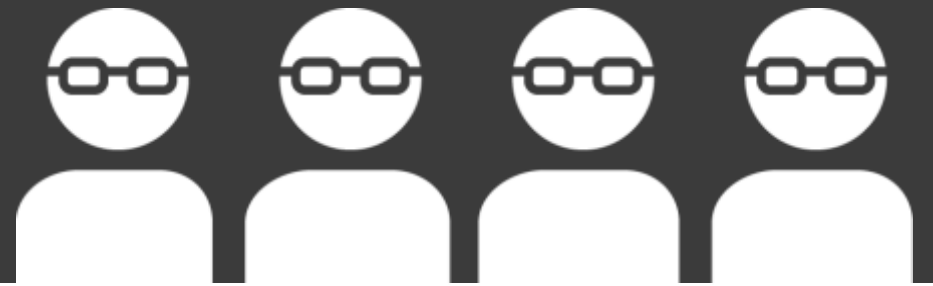
SERVICES

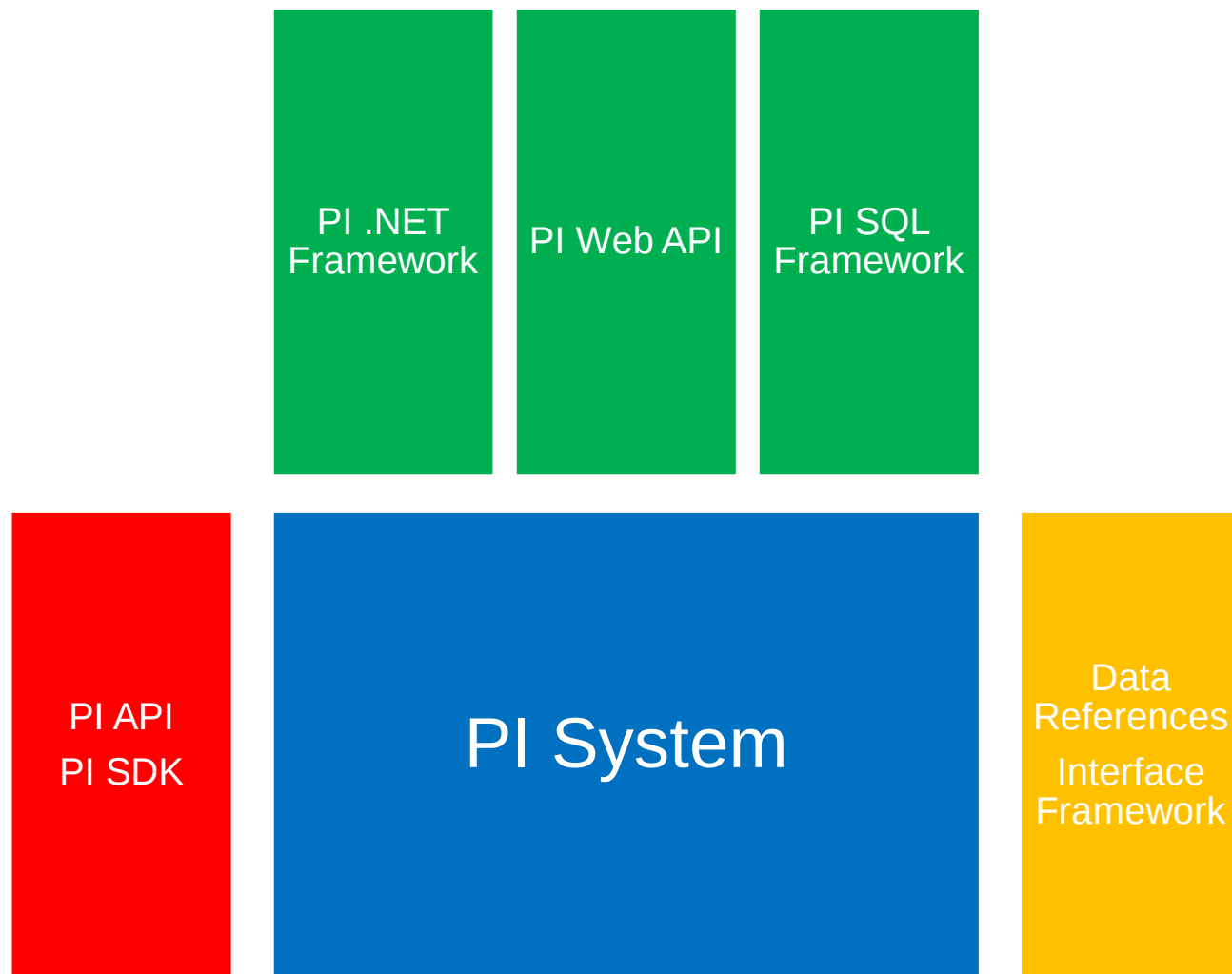


PARTNERSHIPS



Investing In the PI System





PI Developer Platform

Modern Development

Expanded Developer Ecosystem

Hybrid PI System

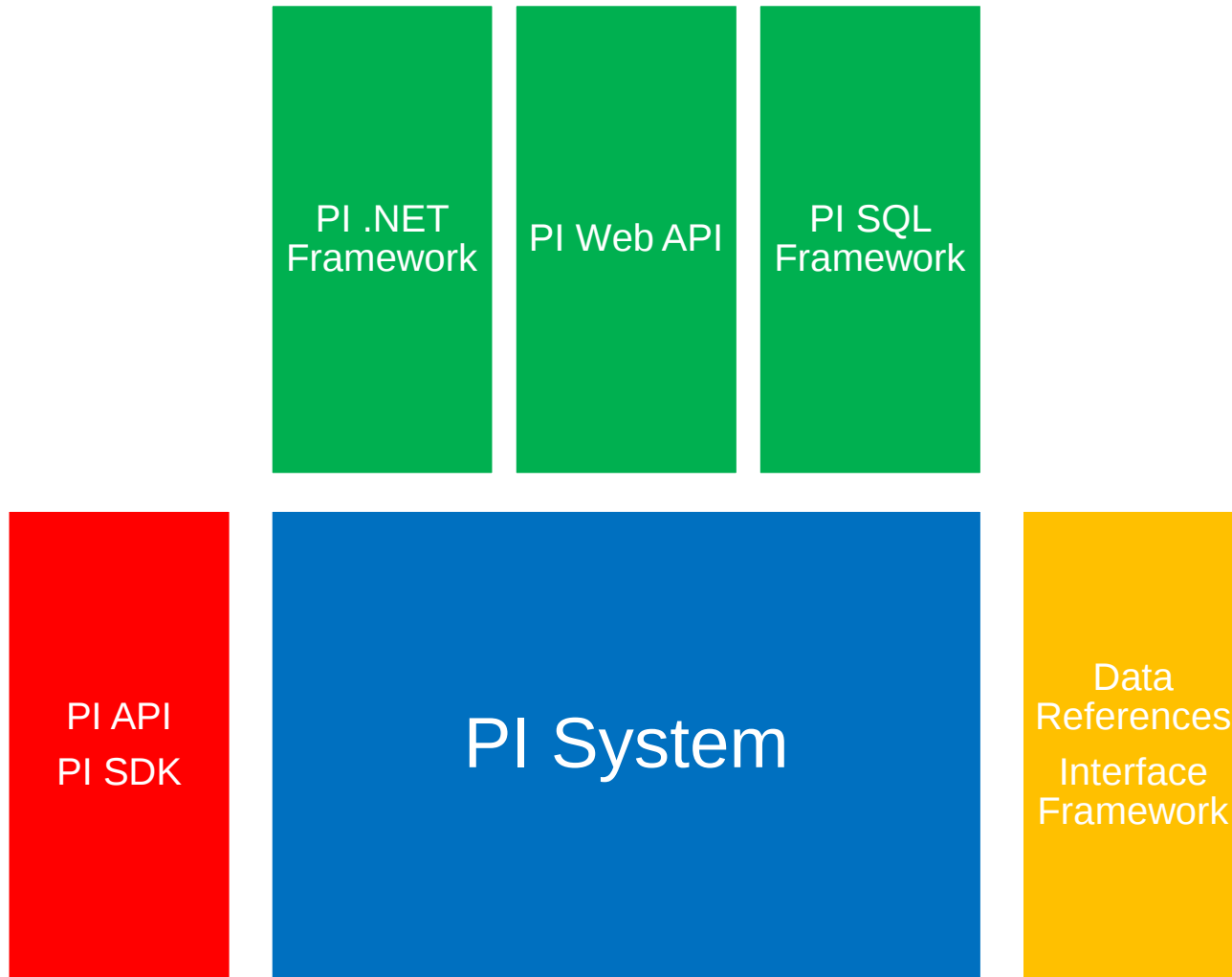
 Deprecated  Restricted  Open

PI Developer Platform

Open

Deprecated

Restricted



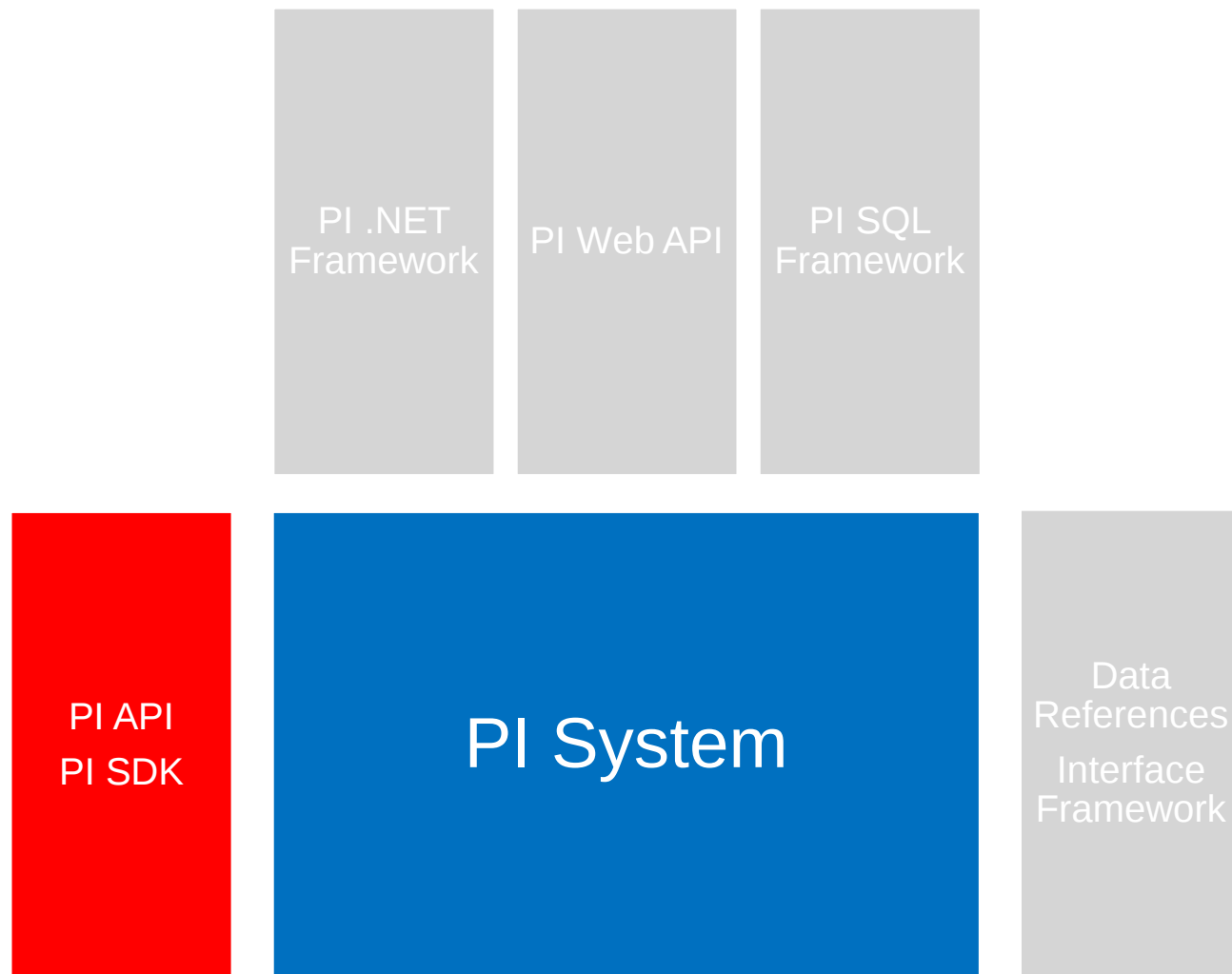
Deprecated



Restricted



Open



 Deprecated  Restricted  Open

Deprecated Access

Binary SDKs

PI API

PI SDK

PI OPC

UNIINT

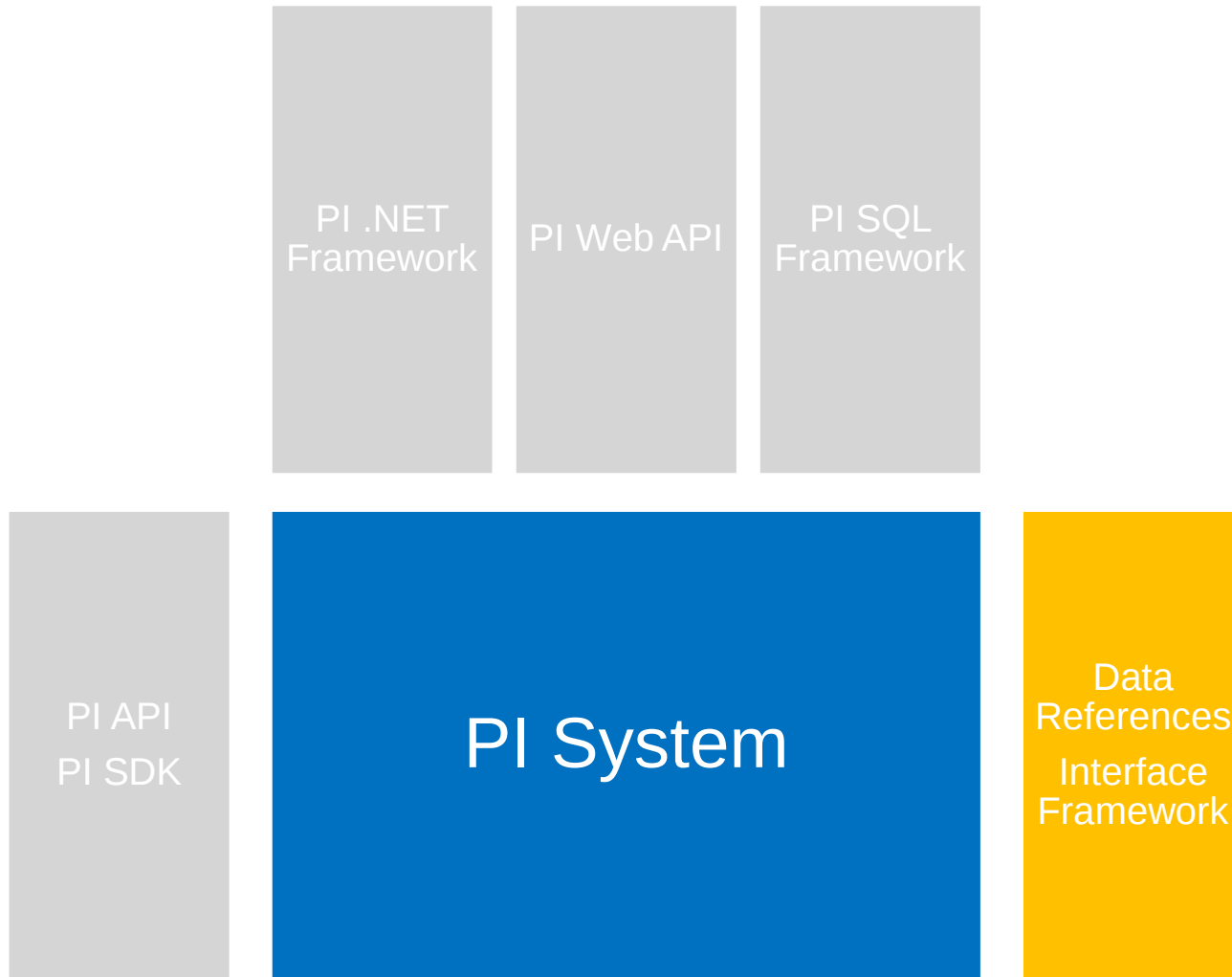
PI OLEDB Provider

Transition

Support

Compatibility

Security



Restricted Access

AF Extensions

Data References

Time Rules

Analysis Rules

Process Book Automation Interface

Notification Channel API

Interface Framework

Next Generation Data Acquisition
Infrastructure and Methods



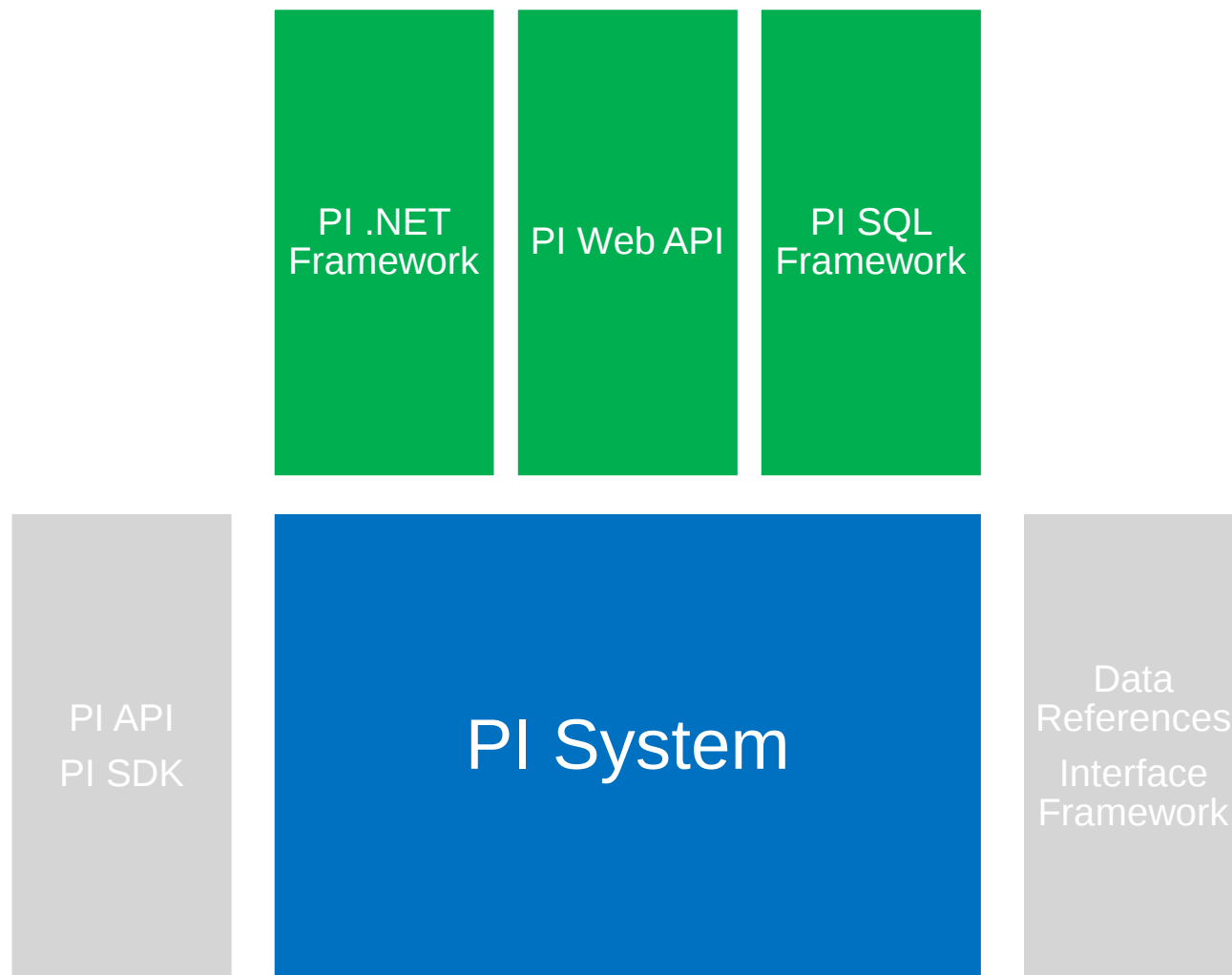
Deprecated



Restricted



Open



Open Access

PI .NET Framework
AF SDK

PI Web API
PI Rest Services
PI Coresight Visualization Services
PI OData Services

PI SQL Framework
PI OLEDB Enterprise
PI ODBC
PI JDBC

 Deprecated  Restricted  Open

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eventmobi.com/vcampus13

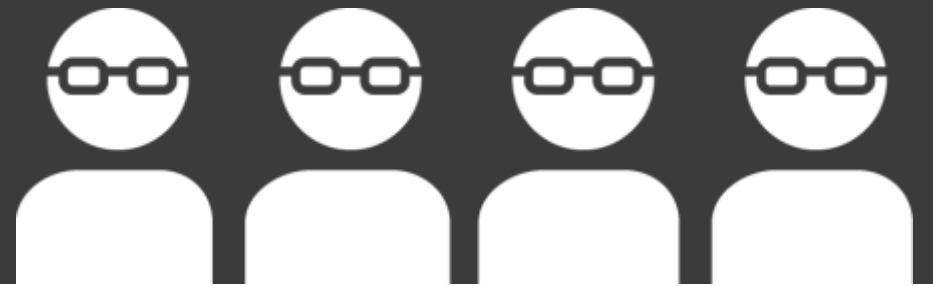


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THANK YOU



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